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MONTHLY REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR

AUGUST AND SEPTEMBER, 1874.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1874.

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MONTHLY REPORT.

REPORT OF CROP-RETURNS.

MEANING OF THE TERM "AVERAGE."

By the term "average," as used in the reports of this Department *with respect to growing crops*, we do not indicate any definite product in bushels, pounds, tons or bales. It is an estimate not of *quantity*, but of comparative condition in reference to former years, embracing the state of development, vitality, and healthfulness of the plants at a given date. What an average crop is in quantity the Department has never determined for either county, State or nation, and never makes it an element in ascertaining the actual yield. The estimates for the latter are always based upon the yield of the previous year, and are never made till the crops have been gathered, and ample time has been afforded our correspondents to ascertain the true results.

Our correspondents are carefully instructed upon these points and fully understand them. Frequent explanations have been made in previous reports; hence the Department cannot be held responsible for misconceptions which it has made every reasonable effort to remove. If parties interested in ascertaining and publishing facts relating to our growing crops desire further explanation it will be cheerfully given. If in default of this information and in *conscious* and *confessed* ignorance of our meaning they misinterpret our results, they must bear their own responsibility to public opinion.

CORN.

The average condition of the corn-crop on the 1st of September, as indicated by our reports of that date, was 83; the maximum, 109, was in South Carolina; the minimum, 37, in Nebraska.

The average condition, compared with the reports of September, 1873, is shown in the following table:

States.	September, 1873.	September, 1874.	States.	September, 1873.	September, 1874.
Maine	87	79	Louisiana	90	76
New Hampshire	100	92	Texas	80	91
Vermont	90	82	Arkansas	93	53
Massachusetts	99	83	Tennessee	80	66
Rhode Island	96	105	West Virginia	105	89
Connecticut	95	111	Kentucky	94	87
New York	90	92	Ohio	91	93
New Jersey	104	75	Michigan	84	76
Pennsylvania	87	99	Indiana	87	96
Delaware	90	90	Illinois	68	78
Maryland	94	88	Wisconsin	89	91
Virginia	99	95	Minnesota	100	96
North Carolina	99	98	Iowa	81	92
South Carolina	95	109	Missouri	67	53
Georgia	103	105	Kansas	63	45
Florida	103	102	Nebraska	63	37
Alabama	94	94	California	97	105
Mississippi	87	89	Oregon	102	100

None of the large corn-producing States reach average, while several of them show a decline from even last year's depressed condition. The only States that are average or above are Rhode Island, Connecticut, South Carolina, Georgia, Florida, California, and Oregon, which, together, produce less than one-twentieth of the crop.

Of 1,145 counties reporting corn-culture, 273 are above average, 240 average, and 632 below. This classification of counties in the different States is shown in the following table:

States.	Counties above average.	Counties average.	Counties below average.	Total reporting corn.	States.	Counties above average.	Counties average.	Counties below average.	Total reporting corn.
Maine	.....	.....	13	13	Texas	16	14	30	60
New Hampshire	.....	1	6	7	Arkansas	.....	.....	34	34
Vermont	1	1	8	10	Tennessee	1	4	39	44
Massachusetts	1	1	3	5	West Virginia	1	14	18	33
Rhode Island	1	1	0	2	Kentucky	8	5	36	49
Connecticut	3	0	2	5	Ohio	16	12	25	53
New York	4	8	26	38	Michigan	8	8	20	36
New Jersey	3	.....	2	5	Indiana	16	14	23	53
Pennsylvania	11	11	16	38	Illinois	6	9	50	65
Delaware	0	0	2	28	Wisconsin	9	8	15	32
Maryland	12	2	10	14	Minnesota	12	10	28	30
Virginia	22	14	30	66	Iowa	23	16	24	63
North Carolina	22	19	15	56	Missouri	7	3	52	62
South Carolina	12	3	4	19	Kansas	.....	.....	31	31
Georgia	36	19	19	74	Nebraska	.....	1	11	12
Florida	6	6	1	13	California	7	9	2	18
Alabama	12	9	15	36	Oregon	1	4	3	8
Mississippi	5	9	19	33					
Louisiana	2	3	17	22	Total	273	240	632	1,145

The New England States, as a whole, fall about one-tenth short of an average. The plantings were generally late, and the crop is consequently backward, and has already been touched with frost in some of the more northern counties. Farmers are hoping for a warm September to enable it to mature.

The Middle States will fall about as far below average condition. They complain of the same unfavorable conditions, besides an abnormal depression of temperature at night. In some localities drought, and in others excess of rain, is stated. The greatest depression is in New Jersey; Pennsylvania is nearly average. An improvement in the conditions of growth is noted in many localities, which in another month may considerably raise the average during the current month.

The South Atlantic States, as a whole, are slightly above average, the high condition in South Carolina and Georgia compensating for the decline in Maryland, Virginia, and North Carolina, caused by drought, chinches, cool nights, &c. Late stands to some extent depressed the yield. The chronic complaint of slovenly cultivation is also received from some counties, but not so frequently as in former reports.

The Gulf States promise about nine-tenths of an average crop. Drought, extreme heat, and hot winds injured late plantings in several counties, in some cases very severely. These were felt most widely in Louisiana, where the flooding rains of spring prevented an early stand, and threw the crop mostly into the later droughts. Crops made before the drought were generally fine.

The inland Southern States will make but three-fourths of a crop, the averages being respectively as follows: Arkansas, 53; Tennessee, 66;

West Virginia, 89; Kentucky, 87. The leading cause of this low condition was drought, which was partially alleviated in the northern counties before the crop was entirely destroyed.

All the States north of the Ohio River show depressed condition, though the great corn States, Ohio, Indiana, and Illinois, are more promising than in September, 1873. Drought, heat, hot winds, and chinches are alleged as causes of the depression. Several counties report very superior crops. This region, as a whole, will probably fall 15 per cent. short of an average.

West of the Mississippi River the crop has met with terrible disasters from drought, chinches, and grasshoppers, of which some idea may be formed from the subjoined notes of correspondence. Minnesota and Iowa seem to have nearly weathered their difficulties, but in Missouri, Kansas, and Nebraska they fell with crushing weight upon the corn crops. Our correspondence from these States reveals a wide-spread destruction in many counties, giving rise to grave apprehensions of distress among the farmers. This region will not, as a whole, make over seven-tenths of a crop.

On the Pacific coast California reports a prospect of 5 per cent. above average, and Oregon full average.

MAINE.—*Penobscot:* Season favorable. *York:* Two weeks late; weather favorable. *Oxford:* Growth good, but two weeks late; injured by frost August 3. *Androscoggin:* Backward; in danger of early frosts. *Piscataquis:* Will be poor unless frost holds off. *Franklin:* Small and late.

NEW HAMPSHIRE.—*Merrimack:* Backward; mostly in the milk; slight frost August 24. *Hillsboro':* Backward, but looks well. *Carroll:* Backward and green; will be safe if frost holds off till October. *Sullivan:* Acreage decreased; crop late. *Cheshire:* Injured by drought, and slightly by frosts August 23 and 25. *Rockingham:* Late and backward.

VERMONT.—*Lamoille:* Season wet and cold; all crops backward. *Caledonia:* Still very late; frost in some sections did some damage. *Grand Isle:* Suffered from wet and cold. *Rutland:* Late. *Franklin:* Just fit to roast.

MASSACHUSETTS.—*Franklin:* Very backward; a warm September necessary to a sound crop. *Berkshire:* Reduced to half a crop by cool, wet weather.

CONNECTICUT.—*New London:* Kept back by rain. *Litchfield:* Large growth, but ears are not filling well; backward and in danger of frost.

NEW YORK.—*Steuben:* White frost August 3. *Allegany:* Green; cool nights. *Dutchess:* Badly injured by drought at earing time; ears not coming out well. *Erie:* Average, but late. *Franklin:* Late spring. *Otsego:* Needs a warm September to mature. *Albany:* A failure through wet, cool nights. *Columbia:* Light crop; very unfavorable season. *Rensselaer:* Poor crop; drought. *Schoharie:* Late. *Seneca:* drought threatened. *Cattaraugus:* Dryest August for seven years. *Delaware:* No rain for four weeks. *Genesee:* Suffering from drought. *Livingston:* Suffered severely from drought; many stalks have no ears on them. *Montgomery:* Backward; cool nights. *Warren:* Cool nights. *Washington:* Light; cool nights. *Jefferson:* The dry August has brought the crop to average. *Sullivan:* Injured by drought. *Monroe:* Shortened by drought.

NEW JERSEY.—*Hudson:* Wonderfully improved. *Gloucester:* Severe drought. *Salem:* Reduced to a half crop by drought. *Warren:* Promising.

PENNSYLVANIA.—*Butler:* Light crop. *Clearfield:* Late, but looks well. *Lehigh:* Grew wonderfully during August. *Northampton:* Very promising. *Perry:* Drought. *Snyder:* Never fairer or larger than this year. *Warren:* Too dry to fill well. *Lawrence:* Shortened a third by dry, cool weather. *Indiana:* Promising. *Pike:* Drought. *Tioga:* Very fine in spite of the dry, cool season. *Washington:* Early plantings ripening fast; late plantings need another good rain and good fall weather. *Bucks:* Too far matured to be injured by drought. *Westmoreland:* Looks well, but is late and in danger of frost. *Lancaster:* Less promising; drought. *Armstrong:* Injured by storms. *Beaver:* Drying up; ears small and not well filled.

DELAWARE.—*Sussex:* Greatly shortened by drought.

MARYLAND.—*Dorchester:* Shortened by drought. *Frederick:* Injured by early drought, but will compare with last year. *Worcester:* Shortened by cool weather in August. *Calvert:* Suffering from drought. *Queen Anne:* Shortened by drought one-half. *Washington:* Short in some places. *Wicomico:* Shortened by drought and the borer.

VIRGINIA.—*Alexandria:* Fodder-corn badly damaged by drought. *Bedford:* Abundant rains will raise the yield to average. *Fluvanna:* General yield 10 per cent. short, but fair on good lands. *King William:* Finest crops for years. *Middlesex:* Small, but

of average promise. *New Kent:* Late, but the best crop since the war; well-worked corn is as good as the land can make it. *Orange:* Reduced below average by cool, dry weather; injured also by chinches. *Pittsylvania:* Greatly improved by late rains. *Princess Anne:* July rains brought the crop up to a fair average; much young corn, following potatoes, is not yet matured. *Pulaski:* Very fine corn season. *Rappahannock:* Shortened by three or four weeks' drought. *Spottsylvania:* Best crop since the war. *Stafford:* Recent rains too late to do much good. *Sussex:* Looks well. *Tazewell:* Suffering for rain. *Washington:* Looks well considering the drought. *York:* Early corn much cut up by bugs; late planted escaped; plenty of rain except early in the season. *Essex:* Bad stand, and late, but otherwise promising. *Henrico:* Still promising, though dry. *Clarke:* Half crop. *Fairfax:* Greatly injured by drought. *Henry:* Never saw so fine a crop here. *Northampton:* Improving. *James City:* Nominal price $6 per barrel, but none for sale. *King and Queen:* Very promising. *Mecklenburg:* Fair on high lands and fine on bottoms; well worked. *Prince George:* Late corn injured by drought. *Southampton:* Greatly improved by late rains. *Charles City:* Very good on loam soil, though somewhat injured by bugs and worms. *Chesterfield:* Very good; earing finely; late plantings injured by cool weather. *Floyd:* Fine but late. *Loudoun:* Drought from May till August; rains then, but too late to save the crop. *Louisa:* Greatly reduced by drought. *Madison:* Improved with late rains to about three-fourths average; highland crops indifferent. *Augusta:* Continues to improve. *Elizabeth City:* Early plantings failed on account of worms. *Greenville:* Some crops suffering from drought; late-planted corn ears poorly. *Page:* Revived by late rains, especially well-cultivated crops. *Lunenburg:* Improved, but still short; late planted, poorly cultivated and injured.

North Carolina.—*Wayne:* Good season; crop promising. *Robinson:* Will be abundant. *Pasquotank:* A little below average through drought. *Granville:* Very good where well worked. *Gaston:* Promising, except a small area visited by hail-storms. *Franklin:* Very good where well cultivated. *Chowan:* Injured by flooding rains on low lands. *Forsythe:* Good. *Cleveland:* Abundant rains have made full crops. *Beaufort:* Greatly improved by late rains. *Martin:* Splendid. *Bladen:* Inferior. *Caldwell:* Good rains will probably bring the crop to an average. *Hertford:* Full average; 10 per cent. more acreage. *Onslow:* Weather unfavorable to late crops. *Alexander:* Season fine for late crops. *Currituck:* Fair promise. *Camden:* Good. *Moore:* Finest crop since 1865. *Perquimons:* Full average. *Rowan:* Best crop for many years. *Alamance:* Fair; late rains; only half a crop planted. *Caswell:* Late; drought and imperfect cultivation. *Greene:* Good. *Person:* Very much injured by late rains. *Stanly:* More plenty than the hogs to be fattened with it. *Wilkes:* Greatly improved by late rains.

South Carolina.—*Fairfield:* Very favorable corn season. *Clarendon:* Fully 50 per cent. better than last year. *Edgefield:* Injured by drought. *Lexington:* Better than for many years past. *Marlborough:* Best crop since the war. *Georgetown:* Failed on thin lands; ears small and not well filled. *Newberry:* Drought has cut off late crops except on bottoms. *York:* Very fine.

Georgia.—*Bullock:* Six weeks of favorable weather. *Carroll:* Best crop for six years; season favorable to both early and late plantings. *Catoosa:* Injured by drought; late reviving rains, however, on the uplands. *Clinch:* Crop made; best since the war. *Dooly:* Fine crop. *Elbert:* Late, but good; good rains. *Gordon:* Late plantings injured. *Schley:* Reviving rains making fine crops. *Stewart:* Finest crop since the war. *Sumter:* Crop made; full average; acreage insufficient. *Whitfield:* Badly injured by drought. *Wilkinson:* Large acreage; promising. *Chattooga:* Badly injured by drought. *Fulton:* Suffered from drought in some places. *Jackson:* Early crops abundant. *Lee:* Crop as fine as the land will make. *Madison:* Never better. *Cobb:* Very good. *Fayette:* Early crops good. *Floyd:* Five weeks of drought and intense heat have greatly injured the crop; very late corn improved by late rains. *Towns:* Improving rains. *Gwinnett:* Good; fine rains of late. *Jefferson:* Doing finely.

Florida.—*Jackson:* Yield will be ample for home consumption. *Lery:* Injured by alternate flood and drought.

Alabama.—*Limestone:* Prospects blasted by drought. *Wilcox:* Benefited by the drought. *Blount:* Cut off by drought from one-fourth to one-half in places. *Calhoun:* Late crops badly damaged by drought. *Lowndes:* Lack of rain for late plantings prevented this year's crop from being the best for many years. *Pike:* Late corn a failure. *Saint Clair:* Dried up; will leave enough for home consumption. *Choctaw:* Suffering from drought, especially late plantings. *Covington:* Injured by drought. *Greene:* Shortened by severe drought; young corn, late planted, is ruined. *Macon:* Late plantings ruined by drought and grass-worms. *Montgomery:* Late plantings injured by drought. *Colbert:* Injured by extreme heat. *De Kalb:* Injured by twenty days of extreme drought. *Lawrence:* Very unequal; some crops better than last year; others poor. *Calhoun:* Early crops good. *Conecuh:* Affected by drought. *Dallas:* Drought. *Perry:* Shortened by excessive heat and drought.

Mississippi.—*Lauderdale:* Shortened half by drought. *Covington:* Shortened by drought. *Grenada:* Affected by drought and hail-storms. *Pike:* Late corn injured by

drought. *Warren:* Late-planted corn irreparably injured by drought. *Holmes:* Injured by extreme drought. *Panola:* Unusually good. *Jefferson:* Fine; very improving rains in good time for late plantings. *Attala:* Late corn injured severely by drought. *Kemper:* Badly injured by drought. *Lincoln:* Bad stand and injured since by drought. *Smith:* Late crops dried up; early crops good. *Yalabusha:* Shortened by drought, grasshoppers, and worms. *De Soto:* Acreage increased and condition good. *Lee:* Acreage increased 20 per cent.; great injury from drought. *Winston:* Greatly injured by drought and hail-storms. *Rankin:* Greatly varied in character.

LOUISIANA.—*East Feliciana:* Short. *Franklin:* Late corn severely injured by cutworms and drought. *Madison:* Greatly improved within ten days. *Moorehouse:* Disastrous five weeks' drought. *Richland:* Late corn mostly a failure through drought; heat almost unparalleled. *Carroll:* Late corn nothing; early not much. *Assumption:* Suffered from early rain, but has wonderfully recovered *Jackson:* Late plantings injured by drought. *Claiborne:* A failure. *Concordia:* A failure. *La Fourche:* Short. *Rapides:* About average.

TEXAS.—*Shelby:* Shortened by drought. *Waller:* Severely injured by drought. *San Jacinto:* Better than for several years. *Bosque:* Shortened by drought 30 per cent. *Dallas:* Prospects for an extra crop cut off by drought; temperature over 100° Fah. in the shade for thirty days; yield will be sufficient for home consumption. *Fannin:* Light on sandy soil; fair on black land. *Goliad:* Shortened by drought on uplands; full average on bottoms. *Kendall:* Yield very large. *Liberty:* Good. *Marion:* Corn made before the drought is very heavy; freedmen's crops will not average a bushel per acre. *Palo Pinto:* Half crop. *Parker:* A little better than last year. *Titus:* Some full crops, but the general average short. *Upshur:* Better than last year, though injured by drought. *Williamson:* One-third of the crops full average; the rest half average. *Wood:* Somewhat shortened by drought, but sound. *Hunt:* No rain since May 20; half crop. *Comanche:* Cut short; no rain since July 1. *Cooke:* Ruined by drought; half a crop. *Ellis:* Not so good as was anticipated. *Grayson:* No rain in eight weeks; early corn will make thirty bushels per acre; late corn scarcely any. *Harris:* Supply abundant; selling at 50 cents per barrel in the husk. *Medina:* Dried up; late plantings failed. *Cherokee:* Drought ruined late corn; Pennsylvania White harvested a good crop. *Hood:* Enough for home consumption. *Fayette:* Drought. *Gonzales:* Crop made before the drought. *Houston:* Ruined by drought; no rain from May 1.

ARKANSAS.—*Baxter:* Cut down to a fourth of a crop by extreme drought. *Cross:* Drought. *Franklin:* Drought. *Craighead:* Drought. *Dallas:* Terrible drought; no corn or mast; many will suffer for food. *Garland:* Many farmers have not raised a single ear of corn, most having to cut down the green fodder for feed. *Hempstead:* Fields vary from full average to two bushels per acre. Last general rains May 12. *Randolph:* Destructive drought. *Crittenden:* Drought. *Independence:* Early planting will make from ten to forty bushels per acre, but three-fourths of the crop was late planted and will not average five bushels. *Izard:* Half crop; drought. *Jackson:* Drought for two and a half months; many farmers will suffer for food themselves as well as their stock. *Jefferson:* Ruined by drought. *Monroe:* Disastrous drought. *Crawford:* Tolerable in hollows; almost ruined by drought on some uplands. *La Fayette:* Half crop; drought. *Scott:* Drought. *Washington:* Upland crops failed entirely; lowlands, half a crop. *Ashley:* Terrible drought. *Arkansas:* Many fields burnt up. *Benton:* Exceedingly dry. *Pulaski:* Total failure on uplands; lowlands, a half crop. *Carroll:* Short. *Fulton:* Withering drought and hot winds. *Prairie:* Devastating drought; many will not raise their own bread. *Woodruff:* Half crop. *Sharp:* Cooked by hot winds.

TENNESSEE.—*Bledsoe:* Late corn will be full average in spite of drought. *Bradley:* Badly damaged by drought and grasshoppers. *Carter:* Injured by drought. *Greene:* Promising. *Hardin:* Suffered greatly from drought, but late corn bids fair; some early plantings will not bring a bushel per acre. *Warren:* Badly injured by a thunderstorm August 29. *Washington:* Very late, but much improved by recent rains. *Campbell:* Late plantings injured by grasshoppers. *Lawrence:* Unprecedented drought. *Cheatham:* Materially affected by drought; late plantings badly affected by armyworms. *Coffee:* Will come nearer an average than any county in Middle Tennessee. *Decatur:* Short from drought. *Dyer:* Shortened two-thirds by drought. *Lincoln:* In many places almost a total failure. *Madison:* No rain to wet the ground from April 25 to August 22; no feed for hogs. *Rhea:* Injured by grasshoppers and high winds; late corn doing well. *Macon:* Late rains brought out the corn considerably. *Grainger:* Mostly late planted and caught by the drought, but has greatly improved with late rains. *McMinn:* Improved by late rains, but still light. *Williamson:* Will average two and a half barrels per acre. *Dickson:* Very little rain since corn planting. *Gibson:* Late crops destroyed except on bottom lands. *Monroe:* Cut off by drought; fine rains benefiting late plantings. *Sullivan:* Greatly improved; abundant rains. *Giles:* Cut down half by drought; good only on clover lands. *Putnam:* Rescued by late rains and doing finely. *Sevier:* Improved wonderfully since the drought; a full average.

WEST VIRGINIA.—*Braxton:* Above average in quantity and quality. *Mercer:*

Greatly improved by August rains. *Monroe:* Greatly improved. *Preston:* Short. *Jefferson:* Drought has cut down the crop 40 per cent.; backward. *Grant:* Some complaints of chinches; the crop, being late, will depend on the nearness of frosts. *Cabell:* Brought out finely by late rains. *Boone:* Fine rains have improved the crop beyond all expectations. *Harrison:* Brought out surprisingly by the late rains.

KENTUCKY.—*Shelby:* Some parts of the county have good corn weather and others very poor. *Clarke:* Suffering from drought. *Daviess:* Failed to get in crops on overflowed bottoms, yet the crop of the county will be 50 per cent. greater than last year. *Hardin:* Improved to half a crop. *Lewis:* Late rains brought the crop to full average. *Laurel:* Recent rains bringing out the crops. *Harrison:* Short through drought and ravages of the chinch-bug. *Gallatin:* Greatly improved by recent rains. *Nicholas:* Shortened by drought. *Oldham:* Poor stand and suffering for rain. *Mercer:* Late plantings filling out, bringing the crop to average. *Boyle:* Improved by late rains. *Lincoln:* Growing finely, but in danger of early frost. *McLean:* Wonderfully improved by late rains. *Taylor:* Drought from May 1 to the middle of August. *Breckenridge:* Materially improved by late rains; crop bids fair. *Grayson:* Fine season since July 15; crop has come out wonderfully. *Graves:* Greatly improved by late rains. *Logan:* Late rains too late for corn. *Russell:* August fine for corn, which, however, is fifteen days late; will make two-thirds of a crop. *Livingston:* Rains too late to save early plantings; chinches injurious in places. *Greenup:* Seasonable rains. *Clinton:* Good crop. *Edmonson:* Improved 50 per cent. since August 1. *Ohio:* Small stalk but unexpectedly fine earing. *Owsley:* Crops greatly shortened by drought; rain too late for early plantings. *Mason:* Late plantings greatly shortened.

OHIO.—*Harrison:* Improved by late rains. *Williams:* Very good; a third more planted than usual on account of the clover freezing out. *Scioto:* Backward; injured by local storms. *Crawford:* Splendid crop for quantity and quality. *Van Wert:* Fine rains for late corn. *Ashland:* Promising, in spite of drought. *Hancock:* Largest crop we have ever had, though shortened by drought. Farmers making arrangements to winter thousands of dairy cows. *Pickaway:* Cut down half, by drought extending from April 25. *Stark:* Drought. *Ottawa:* Severe drought. *Athens:* Wonderful growth in six weeks. *Belmont:* Weather fine, and growing. *Licking:* Growing finely. *Medina:* Suffering from drought, especially late planted; ears not filling well. *Meigs:* Coming out finely from late rains. *Adams:* Shortened by drought. *Perry:* Late corn greatly improved by late showers. *Washington:* Poor stand, and may not mature before frost.

MICHIGAN.—*Charlevoix:* Drought. *Kalamazoo:* Not earing well; injured by drought. *Hillsdale:* Badly injured by drought. *Berrien:* Cut off one-fourth by drought. *Lenawee:* Much shortened by drought. *Montcalm:* Very dry. *Saint Joseph:* Injurious drought. *Branch:* Not over a third of a crop on sandy soils; on timbered land, very good. *Calhoun:* Seriously injured by drought and heat. *Wayne:* Fine, where not injured by hail. *Tuscola:* Somewhat shortened by drought. *Shiawassee:* Injured by extreme drought of six weeks. *Cass:* Poor, but improved by late rains.

INDIANA.—*Cass:* Shortened one-fourth by drought. *Clay:* Good season. *Hamilton:* Good average, in spite of drought and chinches. *Martin:* Benefited by recent rains, especially late plantings. *Shelby:* Drought. *Washington:* Shortened by drought. *Warren:* Drought. *Kosciusko:* Cut short 30 per cent. by August drought. *Noble:* Greatly injured by drought. *Steuben:* Injured by drought; half crop. *Howard:* Never so fine; mostly out of danger. *Posey:* Greatly improved by late rains. *Madison:* Fine season. *Huntington:* Improved by late rains; some grub-worms. *Fountain:* Shortened one-fourth by drought. *Fayette:* Slightly injured by drought and chinches. *Elkhart:* Unparalleled drought; crop shortened 30 per cent. *Decatur:* Drought and chinches. *Perry:* Very poor. *Crawford:* Part of the county suffered from drought; the remainder reaches average. *Carroll:* Some crops injured by chinches. *Pike:* Prospect very good; fine rain of late. *Ripley:* If frost keeps off three weeks the yield will be fair. *Wabash:* Shortened by drought and chinches. *Fulton:* Shortened by drought. *Morgan:* Drought cut down the crop to average. *Whitley:* Good crop. *Union:* Very much shortened by drought. *Franklin:* Short in quantity and weight. *Lawrence:* Drought. *Marion:* Above average, and out of danger. *Marshall:* Shortened by drought.

ILLINOIS.—*Washington:* Badly injured by chinches. *Johnson:* Drought. *Logan:* Rains too late to save the crop. *Livingston:* Severe drought; stock fed on corn-fodder for a month. *Sangamon:* Chinches destructive. *Winnebago:* Half a crop; scorching south winds. *Lee:* About 92,000 acres in corn, averaging 28 bushels per acre, and aggregating 2,375,000, of which 1,887,000 will be available for export. *Alexander:* Injured by chinches. *Henderson:* Fine prospect injured by drought within the last week. *Perry:* Ruined by drought and chinches. *Effingham:* Half crop; drought and chinches. *Fayette:* Hardly half a crop; drought and chinches; late crops have fine rains. *Tazewell:* Fine growing rains. *Macon:* Better than common, excepting a few fields eaten by bugs. *Jackson:* Upland corn badly damaged by chinches; bottoms escaped. *Clay:* Injured seriously by drought and chinches. *Wayne:* Improved by late fine rains. *Iroquois:* Cut short one-half by drought. *Whiteside:* Somewhat fired at the roots.

Madison: Suffering from chinches. *Moultrie:* Average. *Carroll:* Continued drought. *Clinton:* Taken by chinches. *Shelby:* Materially injured by drought and chinches; fine rains too late for corn. *Vermilion:* Shortened a third by drought. *St. Clair:* Second attack of chinches very destructive. *White:* Crop unparalleled but for chinches. *Henry:* Shortened greatly by drought. *Randolph:* Destroyed mostly by chinch-bugs. *Cass:* Shortened a fourth by drought and chinches. *Ford:* Half eaten by chinches. *Ogle:* Light through drought. *McLean:* Greatly improved, but short. *Hancock:* Some injury from chinches; abundant rains during summer. *Mason:* Suffered severely from drought and chinches. *Pratt:* Drought and chinches.

WISCONSIN.—*Sauk:* Ten per cent. eaten by chinches; injured by drought. *Fond du Lac:* Earing poorly on account of drought. *Juneau:* Good in spite of drought; no rain for two months. *Columbia:* Shortened by drought and chinches. *Jackson:* Full average. *Pierce:* Drought. *Jefferson:* Drought and chinches. *Richland:* Late plantings badly hurt by drought. *Outagamie:* Rains too late.

MINNESOTA.—*Mower:* Unusually good. *Nicollet:* Injured by grasshoppers. *Steele:* Fully matured. *Blue Earth:* Increased acreage, but yield reduced to average by drought and grasshoppers.

IOWA.—*Chickasaw:* Late rains may bring the crop to average. *Dallas:* Ears small, but abundant. *Des Moines:* Injured by larvæ of the May beetle. *Henry:* Acreage 10 per cent. increase; average crop. Late copious rains. *Story:* Shortened by drought 20 per cent. *Polk:* Shortened by drought; favorable weather for maturing the crop. *Appanoose:* Saved by timely rains; crop ungathered selling to feeders from the grasshopper regions of Nebraska at $10 to $12 per acre on the stalk. *Emmet:* Destroyed by grasshoppers. *Jackson:* Shortened by drought. *Cass:* Largest crop ever raised; ten days will save it from frost. *Mitchell:* Splendid crops where well cultivated. *Montgomery:* Injured by drought. *Pocahontas:* Much improved. *Van Buren:* Fine growing rains. *Woodbury:* Shortened 20 per cent. by grasshoppers. *Washington:* Greatly affected by drought. *Howard:* Almost out of danger. *Audubon:* Plenty of rain in August; crop heavy. *Buchanan:* Fair average in spite of drought. *Decatur:* Best crop for many years. *Delaware:* Suffering. *Harrison:* Badly injured by grasshoppers. *Tama:* Driest season since the county was settled. *Pottawattomie:* Late plantings suffering from drought.

MISSOURI.—*Texas:* No rain for seven weeks; will not reach 7 bushels per acre. A hot southwest wind is doing more damage than the drought; thermometer at 107° in the shade for six days. *Baxter:* Crop worth nothing; our people must suffer terribly; nothing to feed stock with; drought terribly destructive. *Chariton:* Suffered severely from drought. *Jefferson:* No rain for five weeks. *Oregon:* Ruined by drought and chinches; no rain for ten weeks. *Polk:* Ruined by drought and chinches; worst outlook ever known. *Christian:* Ruined by drought. *Crawford:* Ruined by drought and chinches. *Caldwell:* A third of a crop; much being cut for fodder. *Platte:* Crop now being cut to avoid grasshoppers; terrible drought. *Putnam:* Prospects mostly fine; drought injurious in some parts. *Saint Genevieve:* Excessive drought at last broken by abundant rains. *Clinton:* Hot southwest winds blasted some spots of corn. *Douglas:* Cut down half by drought and chinches. *Ray:* Seriously injured by protracted drought. *Bates:* Terrible drought; ruined the crops. *Daviess:* Drought cut down the crop to 25 per cent. *De Kalb:* Injured by drought and chinches; a third of a crop. *Moniteau:* A fourth of a crop; drought and hot winds. *Montgomery:* A few crops taken by grub-worms and a few by grasshoppers. *Newton:* Reduced to a lower figure than was ever before known by drought and chinches. *Ralls:* Better than for many years; rain abundant and seasonable; chinches did little damage. *Ripley:* Dried up by hot, burning atmosphere; yellow field-corn from the Department matured two or three weeks earlier than common sorts. *Vernon:* Injured severely by drought and chinches; not half a crop. *Shelby:* Suffered from drought and chinches. *Morgan:* Chinches destructive. *McDonald:* An entire failure in many places. *Phelps:* Nearly ruined by six weeks of drought. *Pettis:* Reduced by drought and chinches to an average of 4 bushels per acre. *Johnson:* Almost a total failure, through drought and chinches. *Cass:* Will average 5 bushels, leaving out some neighborhoods favored with good rains. *Dallas:* Destroyed by drought and chinches. *Taney:* Will not average 10 bushels per acre; late plantings scarce worth gathering. *Benton:* Drought and chinches. *Grundy:* Nearly ruined by drought and chinches. *Cole:* Upland crops scorched.

KANSAS.—*Jefferson:* A fourth of a crop; drought, chinches, and grasshoppers. *Morris:* Suffered severely from grasshoppers. *Cherokee:* Short through lack of cultivation, drought, and chinches. *Franklin:* Fearfully reduced by drought, chinches, and grasshoppers. *Nemaha:* Nearly ruined by drought and grasshoppers; not 5 bushels per acre. *Mitchell:* Ruined by grasshoppers. *Montgomery:* Not over 15 bushels per acre. *Allen:* Materially injured by millions of grasshoppers. *Smith:* Totally destroyed by grasshoppers. *Bourbon:* Injured seriously by grasshoppers, drought, and hot winds. *Douglas:* Not over one in fifty fields made any grain at all; grasshoppers took everything. *Leavenworth:* Grasshoppers and drought. *Cowley:* Destroyed by grasshoppers. *Labette:* Destroyed by drought; used only as fodder; man and beast must live on

wheat. *Neosho:* Ruined by drought, chinches, and grasshoppers. *Woodson:* Destroyed by drought on high prairies, fair average in the valleys. Pennsylvania Feld-corn from the Department a success; matures early. *Osage:* All destroyed by drought, chinch-bugs, and grasshoppers. *Republic:* The long drought proved nearly fatal, and the grasshoppers completed the destruction of the crop. *Graham:* The grasshopper army arrived about the 14th of July, and have destroyed *all* the corn. *Crawford:* So injured by drought and chinches that it will not average more than 10 bushels per acre, and that of poor quality. *Ellsworth:* Total failure; grasshoppers took it. *Greenwood:* Injured more by drought than by grasshoppers. *Pawnee:* Eaten up by grasshoppers. *Chase:* Amounts to scarcely anything; drought, chinches, and grasshoppers.

NEBRASKA.—*Boone:* Cleaned out by grasshoppers; not a bushel left. *Dixon:* Almost totally destroyed by grasshoppers. *Pawnee:* Reduced to nothing by drought, hot winds, and grasshoppers. *Merrick:* Destroyed by grasshoppers. *Lincoln:* Destroyed by grasshoppers. *Burt:* Almost a failure in the west part of the county, owing to drought and grasshoppers. Totally destroyed by grasshoppers except a few pieces. *Gage:* Destroyed by grasshoppers. *Otoe:* Cut very short by drought.

CALIFORNIA.—*Sacramento:* Cultivated only in the bottoms; season favorable, and yield good.

WHEAT.

The average condition of the wheat-crop of the United States, as shown by our September returns, is 93, or 2 per cent. less than the average of September, 1873. The increased acreage, however, amounting to 7 per cent., raises the prospective yield to nearly average upon last year's acreage. The September averages of the different States for 1873 and 1874 are shown in the following table:

States.	September, 1873.	September, 1874.	States.	September, 1873.	September, 1874.
Maine	83	100	Louisiana		
New Hampshire	95	103	Texas	85	79
Vermont	96	106	Arkansas	95	120
Massachusetts	102	101	Tennessee	78	104
Rhode Island			West Virginia	91	111
Connecticut	104	103	Kentucky	85	112
New York	72	106	Ohio	97	109
New Jersey	105	101	Michigan	96	104
Pennsylvania	102	103	Indiana	84	104
Delaware	85	100	Illinois	93	98
Maryland	96	96	Wisconsin	107	77
Virginia	82	88	Minnesota	109	86
North Carolina	82	92	Iowa	100	96
South Carolina	75	83	Missouri	100	104
Georgia	75	98	Kansas	100	89
Florida			Nebraska	107	91
Alabama	85	101	California	92	104
Mississippi	90	94	Oregon	107	103

Rhode Island, Florida, and Louisiana make no return of wheat-culture, as well as a large number of counties in the Southern States. The total number of counties reporting this crop is 960; of these 383 are above average, 294 average, and 283 below average. The following table shows the number of each class of counties in each of the different sections of the Union:

States.	Counties above average.	Counties average.	Counties below average.	Total.
New England States	16	15	6	37
Middle States	33	46	9	88
South Atlantic States	47	44	75	166
Gulf States	10	15	27	52
Southern inland States	94	34	17	145
States north of the Ohio	106	70	58	234
States west of the Mississippi	64	59	84	207
Pacific States	13	11	7	31
Total	383	294	283	960

The New England and Middle States are all above average except Delaware, which, however, is full average. In several counties the yield is beyond any crop for twenty years. In Schuyler County, New York, the Seneca white or Clawson wheat averaged 40 bushels per acre. All of the South Atlantic and Gulf States are below average except Alabama, 101. In Maryland the crop was damaged by intense heat in some counties. One farmer in Frederick averaged 42½ bushels per acre of Fultz wheat. In Virginia the majority of the counties report unfavorable conditions of growth. Here the chinch, which for many years has not troubled the farmer, re-appeared in several counties. Parching weather in June, and subsequent rains, producing rust, are also alleged as causes of decline. The Fultz wheat is well reported in several counties. In Craig County, Touzelle yielded 29-fold, while in Powhatan it is pronounced unadapted to the soil and climate. In North Carolina, in spite of some unfavorable circumstances, the condition is 10 per cent. better than in September, 1873. The Fultz wheat here also gives satisfaction. Georgia comes nearly up to average, and is 13 per cent. better than at this time last year. Excess of rain is reported in some counties, but in others the failure may be clearly laid to improvident selection of lands and injudicious culture. The crop of Alabama is quite satisfactory; Mississippi is better than this time last year. In Texas the rust is the leading complaint. This, with other drawbacks, made the condition less promising than in September, 1873. Arkansas presents the highest condition of all the States —120. The drought, so fatal to other crops, seems to have favored the ripening and harvest of wheat. Tennessee, West Virginia, and Kentucky also present very fine crops to encourage the farmer for the great loss inflicted upon him in the other crops. In the subjoined notes will be found notices of several very successful experiments with Fultz, Tappahannock, and Touzelle wheats, some of them on a large scale.

North of the Ohio River those counties not infested with chinches generally report very superior crops. Ohio, Indiana, and Michigan, scarcely, if at all, troubled with this pest, are all above average. It cut down the crop of Illinois 2 per cent. below average. Injudicious culture is complained of in some quarters. In Wisconsin this insect enemy, together with intense heat and other causes, cut down the crop 23 per cent. below average. The Fultz and Tappahannock varieties have been satisfactorily tested in several counties of these States.

West of the Mississippi the crop is below average in all the States except Missouri. Drought, heat, grasshoppers, and chinches have not only cut down general averages, but have inflicted severe injury in numerous localities. The heaviest loss has fallen upon spring wheat. Both the Pacific States are above average. In Sutter County, California, summer fallow-wheat averaged 30 bushels per acre; some fields reaching 56. An increased use of steam thrashing-apparatus is noted. In Oregon, excessive rain and hail storms injured many fields, yet the general condition is above average.

MAINE.—*Penobscot:* Greatly improved by rains in July. *Aroostook:* Never more promising. *York:* Grain full and plump. *Oxford:* Growth good, but injured by rain in harvest.

NEW HAMPSHIRE.—*Carroll:* A failure on many farms.

NEW YORK.—*Wyoming:* Oran spring wheat from the Department a failure; but few heads matured; crop darker than the seed, which must have been bleached. *Albany:* Fair. *Genesee:* Wheat full average, and of good quality. *Schuyler:* Best crop in twenty years; Seneca white or Clawson variety has averaged 40 bushels per acre. *Tioga:* Never harvested in finer condition.

NEW JERSEY.—*Warren:* Grain plump, fine, and of good weight.

PENNSYLVANIA.—*Clearfield:* Shortened by extreme hot weather in July. *Northampton:* Yield very good; 7 bushels per 100 sheaves; grain full, sound, and heavy. *Snyder.* Very good. *York:* Injured by a worm; the second year it has infested the county. *Indiana:* Superior quality; well secured. *Bucks:* Not so heavy as was expected. *Lancaster:* Very good.

MARYLAND.—*Frederick:* Injured by extreme heat just before harvest. One farmer reports a yield of 42¾ bushels of Fultz wheat per acre; no fertilizers used. *Wicomico:* Fair yield. *Baltimore:* Good; averages from 10 to 25 bushels per acre.

VIRGINIA.—*Bedford:* Not turning out as well as was expected. *Fluvanna:* Yield one-third short. *Frederick:* Two quarts of Fultz from the Department, three years ago, have this year yielded over 400 bushels of excellent grain. This variety averages from 20 to 30 bushels per acre, while other varieties only yield from 10 to 15 bushels. *Middlesex:* A failure. *Powhatan*: Tappahannock from the Department yielded 16-fold; Touzelle not adapted to the climate or soil. *Pulaski:* Damaged by rain in the stack. *Prince William:* Crop inferior, but well secured. *Tazewell:* Turning out well. *Essex:* Injured by rust and parched in June. *Henrico:* Turned out very badly. *King and Queen:* Badly injured by rust just before harvest. *Charles City:* Threshed out only a half crop. *Chesterfield:* Very poor; brings from 80 cents to $1.45 per bushel. *Floyd:* Fultz wheat does finely. *Amelia:* Half average; Fultz the best of all. *Craig:* Two quarts of Touzelle sown on thin land with a light top-dressing of manure yielded 58 quarts, or 29-fold. *Loudoun:* Chinches injured the crop. *Madison:* Rusted, but secured in good condition. *Augusta:* Threshed out poorly. *Lunenburgh:* Below average.

NORTH CAROLINA.—*Forsyth:* Best crop in eight years. *Alamance:* Heavy strawed; grain-yield three-fourths average. *Anson:* Full average. *Greene*: Very good. *Rockingham:* A quart of white winter-wheat from the Department yielded 40-fold; a quart of winter-rye, 48-fold. *Stanly*: All crops light, except the Tappahannock and Fultz, especially the latter. Native seed contaminated with smut.

GEORGIA.—*Fannin:* More wheat raised than ever before. *Sumter:* Thrashed out poorly; slovenly culture and injudicious selection of lands. *Cobb:* Over average. *Jefferson:* Injured by excess of rain.

ALABAMA.—*Jackson:* The Tappannock wheat yielded three times as much as the common variety; Touzelle has done no good. *Calhoun:* Good, but damaged by rain in the stack.

MISSISSIPPI.—*Winston:* A quart of Tappahannock from the Department, in spite of rust, yielded 3 pecks of wheat.

TEXAS.—*Upshur:* Ruined by rust. *Titus:* Badly rusted. *Dallas:* Yield 15 bushels per acre, berry fine, and flour good. *Uvalde:* Talavera wheat from the Department has failed after three years' trial, through rust. It is not suited to the climate.

ARKANSAS.—*Crawford:* A quart of Touzelle from the Department yielded 32-fold; ordinary varieties yield but 12-fold. *Arkansas:* A good average; well secured. *Newton:* Fultz and Tappahannock just what we want.

TENNESSEE.—*Washington:* Injured by wet in the stack. *McMinn:* Will average 8 bushels per acre. *Williamson:* Harvested in fine order. *Monroe:* Fair crop. *Giles:* Extra yield and heavy grain. *Putnam:* Largest crop ever raised here.

WEST VIRGINIA.—*Braxton:* Recent rains will bring the crop up to average. *Mercer:* Above average in spite of midge and worms. *Monroe:* Crop heavier and better than ever before. *Putnam:* Damaged by rain in the shock. The Fultz from the Department has proved the most prolific in this region. One farmer, from 50 bushels of seed, obtained a crop of 1,800 bushels. *Harrison:* Thrashes out unusually well; some crops injured by rain in the stack.

KENTUCKY.—*Daviess:* Crop fine, averaging 20 bushels per acre, and ranging as high as 37½ bushels; grain good. *Hardin:* Only 85 cents per bushel. *Boone:* A farmer obtained 4 bushels of Tappahannock wheat from 4 quarts of seed sent by the Department. Another reports 80 pounds of Touzelle from 2 quarts of seed. Both experiments were tried on clay soil. *Nicholas:* Unusually good. *Lincoln:* Generally sound and good. *McLean:* Better than for years; Fultz did admirably. *Graves':* Good crop, but quality somewhat depreciated by the drought. *Russell:* A gallon of Fultz sent three years ago from the Department has this year resulted in 98 bushels. A gallon of Mediterranean winter produced 3 bushels; promises to be very fine.

OHIO.—*Coshocton:* Crop larger, better, and better secured than for many years. Fultz better and more abundant than any other variety. *Ashland:* Abundant and extra fine. *Morgan:* Largest and best crop for many years; Fultz from the Department is the best; Tappahannock not quite so good. *Ross:* Splendid crop. *Columbiana:* Very fine.

MICHIGAN.—*Berrien:* Fair. *Branch:* Full average and fair. *Tuscola:* Great variation of yield and quality.

INDIANA.—Never larger or finer; average from 20 to 40 bushels per acre. *Steuben:* Partly recovered from winter freezing; well secured. *Howard:* Fine yield in spite of winter-killing. *Madison:* Fine. *Fountain:* Good. *Fayette:* Good quality. *Crawford:*

Abundant and good. *Carroll:* Injured some by chinches. *Pike:* Quantity and quality never better.

ILLINOIS.—*Menard:* Chinches injurious. *Sangamon:* Excellent; yield varies from 5 to 35 bushels per acre. *Winnebago:* Half a crop; scorched by south winds. *Lee:* About 30,000 acres in wheat, averaging 13 bushels per acre, with a total yield of 390,000; of this amount 237,560 will be available for export. *Alexander:* Better than ever known; fields average from 22 to 34 bushels per acre. *Jackson:* Good average; commands 90 cents to $1.05 per bushel. *Wabash:* Fultz wheat, from the Department, is yielding very satisfactorily. The wheat-crop generally is very large; large fields have averaged from 35 to 42 bushels per acre; county average, 20 bushels. *Cumberland:* Good. *Edwards:* Damaged by rain in the stack. *Carroll:* Yield and quality good; price 80 cents per bushel. *Saint Clair:* Splendid where well cultivated; one farmer averaged 37½ bushels per acre. *Massac:* Late wheat injured by chinches. *White:* Crop unparalleled but for chinches. *Macon:* Spring-wheat poor; fall-wheat did well; Tappahannock the best.

WISCONSIN.—*Sauk:* Reduced by intense heat and chinches. *Adams:* Ten per cent. short, but of good quality. *Fond du Lac:* Considerably shrunken. *Juneau:* Yield from 3 to 6 bushels per acre. *Jackson:* Third of a crop.

MINNESOTA.—*McLeod:* Spring-wheat poorly filled on account of extreme heat following wet weather. *Mower:* Short, but of excellent quality. *Nicollet:* Injured by grasshoppers; Nicollet Township averages 10 bushels per acre. *Sibley:* Injured by drought, heat, and grasshoppers. *Winona:* Odessa wheat entirely failed. Wheat-crop averages 14 bushels per acre, ranging up to 30. *Steele:* Fine harvest weather; crop thinned by drought during stooling; berry fair size and sound; yield ranging from 14 to 30 bushels per acre. *Blue Earth:* Injured by drought and grasshoppers; quality good, except red Osaka, which rusted badly. *Pope:* Blighted by the hot sun and injured by storms. *Todd:* Seasonable rains; Oran wheat rusted. *Chippewa:* Probably injured by grasshoppers. *Stearns:* Damaged by storms in the shock. *Douglas:* Poor; unfavorable harvest-weather. *Swift:* Extreme heat prevented heads from filling. *Buchanan:* Harvested in good condition; good quality.

IOWA.—*Chickasaw:* Spring-wheat abundant and excellent. *Dallas:* Unusually good quality. *Des Moines:* Ripened too rapidly on account of the intense heat. *Lee:* Winter-wheat greatly damaged by rust and chinches; spring-wheat a complete failure. *Story:* Better than ever before; averages 18 bushels per acre. *Calhoun:* Would have been average but for grasshoppers. *Polk:* Both winter and spring-wheat above average. *Emmet:* Destroyed by grasshoppers. *Jackson:* Good grain but diminished yield. *Cass:* Average 20 bushels per acre; very full and plump; well secured. *Mitchell:* Fair; Odessa a failure. *Woodbury:* Shortened 25 per cent. by drought and grasshoppers. *Howard:* Averages 10 or 12 bushels per acre. *Harrison:* Half eaten by grasshoppers.

MISSOURI.—*Jefferson:* Average 15 bushels per acre on uplands and 25 bushels on lowlands. *Platte:* Sells at $1 per bushel. *Douglas:* Wheat never better; Fultz and Tappahannock, from the Department, average about 25 bushels per acre. *Daviess:* Good and well secured. *Newton:* Twenty per cent. above average. *Vernon:* Half crop. *Douglas:* Fair crop. *Cowley:* Very good; 20 bushels per acre. *Pulaski:* Best crop for years; 12 to 30 bushels per acre.

KANSAS.—*Woodson*: Almost totally eaten by chinches. *Osage:* Excellent where not injured by chinch-bugs. *Republic:* Winter-wheat a good crop; early-sown spring-wheat good. *Burton:* Winter-wheat very good; spring shortened by drought.

NEBRASKA.—*Boone:* Badly swept by grasshoppers. *Dawson:* First quality.

CALIFORNIA.—*Stanislaus:* Disappoints expectations; not over 10 bushels per acre average yield. *Sutter:* Volunteer wheat averaged 8 bushels per acre; summer-fallow averaged 30 bushels and reached 56 bushels per acre. *Santa Clara:* Prices reduced about 5 per cent. *San Joaquin:* Splendid harvest; straw well developed and grain good; most of the threshing done by steam-power. *Mendocino:* Abundant; grain-hay is also abundant. *Placer:* Crop light but very good. *Sonoma:* Grain full, plump, and clean. *Alameda:* Farmers sell only as their necessities compel them at present prices.

OREGON.—*Clatsop:* Damaged by rain in the shock. *Clackamas:* Excellent everywhere. *Grant:* Badly injured by hail-storms. *Umatilla:* Averages 20 to 40 bushels per acre.

OATS.

In New England the crop is unusually good. Maine, from which every county reports, returns an average condition of 104; New Hampshire, 105; Vermont, 110; Massachusetts and Connecticut, 103; Rhode Island, 100. Minnesota and California return 103. All other States fall

below average, ranging from 99 in Oregon to 47 in Kentucky. The reported causes of reduced condition are: New York, 88, drought and rust; New Jersey, 72, rust; Pennsylvania, 82, drought and grasshoppers. Throughout the South Atlantic and Gulf States both drought and rust have extensively prevailed. The same is true of Arkansas, Missouri, Tennessee, and Kentucky. In the other States west of the Mississippi grasshoppers have been very destructive on oats as on other crops. Chinches have also done extensive injury in large areas of both the Mississippi and Ohio Valleys. Drought united with chinches to reduce the crop in Wisconsin, 83. The average for the country is a condition of 86.

MAINE.—*Penobscot:* Greatly improved by rains of July. *Aroostook:* Never more promising. *York:* Best crop for years. *Oxford:* Not well filled.

MASSACHUSETTS.—*Berkshire:* Heavy crop.

NEW YORK.—*Otsego:* Best crop for years. *Wyoming:* Early fallow oats later than the Brunswick, but have done well. *Albany:* Rust in some places. *Queens:* Reduced by drought. *Washington:* Growth extraordinary, but somewhat rusted. *Sullivan:* Large growth of straw, but light grain.

NEW JERSEY.—*Warren:* Light and somewhat rusted.

PENNSYLVANIA.—*Butler:* Very light; late-sown best. *Northampton:* Poor. *Indiana:* Half a crop; well secured. *Tioga:* Never harvested in finer condition. *Bedford:* Damaged by drought. *Lancaster:* Short in straw and light in grain. *Beaver:* Light, and badly eaten by grasshoppers. *Mifflin:* Very poor; some crops scarcely worth harvesting; some plowed under. *Armstrong:* Shortened by June drought.

MARYLAND.—*Wicomico:* Fair yield.

VIRGINIA.—*Prince William:* Quality inferior; secured in good condition. *Bedford:* Greatly damaged by drought. *Henrico:* Winter-oats good; spring-crops the lightest yet grown here. *Clarke:* Almost a failure. *Prince George:* Schonen, from the Department, a great success; exceeds all other spring varieties. *Chesterfield:* Winter or fall seeding excellent; spring seeding very poor. *Madison:* Grain small and inferior. *Page:* Almost a failure.

NORTH CAROLINA.—*Alamance:* Shortest crop of spring-oats for several years; winter-oats better than usual, but only a small crop sown. *Ashe:* Affected by drought. *Anson:* Full average. *Greene:* Two-thirds average.

GEORGIA.—*Fannin:* Oats almost a failure through rust. *Lumpkin:* Ruined by rust. *Walton:* Badly rusted. *Cobb:* Rusted. *Murray:* Cut off half by drought. *Jefferson:* Have done finely.

TEXAS.—*Upshur:* Ruined by drought. *Titus:* Red-rust proof did well; winter-sown oats about two-thirds of a crop; spring-sown destroyed. *Waldo:* White Schonen, from the Department, well adapted to soil and climate; potato oats improve as they become acclimated.

ARKANSAS.—*Baxter:* Shortened by drought. *Randolph:* Destructive drought. *Crawford:* Ruined by rust. *Arkansas:* Good. *Carroll:* Short. *Dorsey:* Half crop; drought of ninety days.

TENNESSEE.—*Granger:* Half crop. *Bradley:* Spring-oats an entire failure. *Williamson:* A total failure. *Monroe:* Cut off by drought and storms. *Giles:* Almost destroyed by drought. *Putnam:* Almost a failure; few sown.

WEST VIRGINIA.—*Braxton:* Short through drought. *Mercer:* Three-fourths average; Schonen the best. *Monroe:* Third of a crop. *Preston:* Short. *Doddridge:* Injured by drought. *Grant:* Injured by chinches. *Boone:* Harvested in good condition.

KENTUCKY.—*Boone:* A farmer obtained 3 bushels of Somerset oats from 4 quarts of seed furnished by the Department; sown on clay soil. *Nicholas:* Very light. *Oldham:* Failed. *Lincoln:* Almost a failure—only half the area harvested. *McLean:* Almost a failure. *Ohio:* Injured by drought.

OHIO.—*Williams:* Very good. *Ashland:* Very poor. *Hamilton:* Partial failure; drought and chinch. *Ross:* Shortened by drought. *Columbiana:* Very short and poor. *Geauga:* Shortened by drought.

MICHIGAN.—*Shiawassee:* Yield light; quality good. *Hillsdale:* Badly injured by drought. *Livingston:* Light through drought. *Menomonee:* Some damage from grasshoppers. *Wayne:* Fine where not injured by hail.

INDIANA.—*Dearborn:* Ruined by drought. *Steuben:* Generally good. *Huntington:* Very heavy. *Decatur:* Drought and chinches. *Pike:* Too low to be cut. *Franklin:* Very light.

ILLINOIS.—*Menard:* Injured by chinches. *Sangamon:* Short. *Winnebago:* Scorched by south winds. *Lee:* About 30,500 acres, averaging 30 bushels per acre; total, 901,350 bushels, of which 235,350 will be available for export. *Alexander:* Injured by chinches. *Perry:* Ruined by drought and chinches. *De Kalb:* Below average. *Cumberland:*

Light, owing to late seeding and drought. *Massac:* Injured by drought and chinches. *Randolph:* Short and thin; only one-third of the crop was cut. *Cass:* Chinches.

WISCONSIN.—*Jackson:* Half crop. *Clark:* Fast maturing; no frost yet. *Jefferson:* Drought and chinches. *Richland:* Light.

MINNESOTA.—*Nicollet:* Grasshoppers reduced the yield to 15 bushels per acre. *Sibley:* Destroyed by grasshoppers. *Blue Earth:* Very light; injured by grasshoppers. *Todd:* Seasonable rains. *Jackson:* What the grasshoppers left bids fair.

IOWA.—*Chickasaw:* Splendid crop and in good condition. *Polk:* Good yield and quality. *Mitchelt:* Good. *Woodbury:* Somerset oats, from Department, of light weight and poor quality; will not weigh over 20 pounds per bushel. *Howard:* Heavy and good. *Buchanan:* Good, but short.

MISSOURI.—*Ray:* Seriously injured by protracted drought. *Newton:* Half crop and light weight. *Vernon:* Half crop. *Douglas:* Small crop saved. *Johnson:* Straw short, heads light.

KANSAS.—*Osage:* Eaten by chinches. *Republic:* Early sown very good; late, about one-third of a crop. *Burton:* Shortened by drought.

RYE.

The average condition of rye is 92. It is above average in all of the New England and Middle States except Vermont and Pennsylvania. It is below average in all the Southern States except Maryland, Georgia, Florida, Tennessee, West Virginia, and Kentucky. In Ohio and California it is full average, and in all the other States below. In the Eastern States generally it appears to have enjoyed favorable conditions of growth, and also in the Southern inland States. West of the Mississippi it suffered from drought and insect-ravages. It is very little cultivated in the Gulf States.

BARLEY.

Barley averages 92 per cent. of a full crop. Very little is raised south of Kentucky, where it is above average. In the New England and Middle States it is about average. In the Northwest it is about 90 per cent., and on the Pacific coast a little above average. The late crops in the Northwest were injured by drought and insects.

BUCKWHEAT.

This crop is below average in all the States except Vermont, Massachusetts, and Connecticut. In New England it is about average on the whole. In the Middle States it is about 92. Considerable quantities are grown in West Virginia and Tennessee, but in the other Southern States its culture is insignificant. In the Northwest the crop has nowhere been very satisfactory. In Kansas the grasshoppers reduced the average to 39.

TOBACCO.

Our returns foreshadow that less than half a crop of tobacco will be gathered this year. The only States presenting a condition above average are Connecticut, 107, and California, 102. Wisconsin, Iowa, and Oregon are average. These five States, however, grow less than one twenty-fifth of the whole crop. Kentucky, representing about two-fifths of the tobacco-growing interest, averages but 31, a decline of 11 since the July report. Tennessee and Nebraska make a still more unfavorable return, averaging but 24 each. Kansas strikes the base-note at 20. In the South and West the prevailing drought is sufficient to account for the generally low condition, which, in connection with the reduced acreage, will warrant the low estimates received from this part of the

country. The following extracts from correspondence will show some of the local aspects of this industry. The report from Alamance, North Carolina, will excite special attention on account of its different tenor from the general mass of our reports:

CONNECTICUT.—*Hartford:* Early planted secured in fine order; late plantings require ten to fifteen days more of good weather.

MARYLAND.—*Charles:* Not half a crop planted, and much of that injured by the cold, harsh, and dry weather. *Calvert:* Suffering from drought. *Saint Mary's:* Very poor.

VIRGINIA.—*Fluvanna:* Full half short. *Orange:* Late, and threatened by frost; only early planted and well cultivated tobacco will mature. *Patrick:* Scarcely any. *Pittsylvania:* Condition somewhat improved of late; area greatly reduced. *Spottsylvania:* Hardly a fourth of last year's acreage, and less promising. *Caroline:* Almost a failure. *Halifax:* Smallest crop for years, and badly injured by horn-worms. *Henry:* From one-fourth to one-third average; fair proportion of fine leaf if the season is good. *Mecklenburgh:* Drought and tobacco-worms injurious, the latter more numerous than for many years. *Buckingham:* With late frosts the crop may be one-third of an average. *Campbell:* Backward and unpromising. *Chesterfield:* Only a half crop planted; looks well. *Amelia:* Almost a total failure from want of plants and ravages of the fly. *Louisa:* Greatly reduced by drought and flies. *Madison:* Good when a stand was secured early; late plantings small; crop about half. *Bath:* Two-thirds of a crop.

NORTH CAROLINA.—*Alamance:* The northern portion of Alamance County is one of the finest tobacco regions in the State, though until the last few years it was not fully realized. In all the tobacco sales which have been held of late in Danville, Va., and when premiums have been offered, Alamance farmers have taken the prize. In one township, Pleasant Grove Township, which lies in the northeastern part of the county, there has been $75,000 worth of tobacco sold of last year's crop, and some yet to sell. Some farmers have made from $500 to $1,000 per hand, after paying all expenses. *Caswell:* Scarce half a crop standing; with an ordinary season much of that will not mature. *Person:* Half a crop planted; unusually fine.

TEXAS.—*Titus:* Plant-beds failed.

ARKANSAS.—*Washington:* Half a crop; drought.

TENNESSEE.—*Macon:* Almost a failure. *Williamson:* A failure.

KENTUCKY.—*Daviess:* About one-tenth of a crop; looking well, but complaints of worms are numerous. *Lewis:* A third of last year's crop. *Bracken:* No improvement; almost a total failure. *McLean:* Almost a failure; about an eighth of a crop. *Grayson:* Very little planted. *Graves:* The crop will not be over a million pounds, and that inferior, against an average of six millions. *Metcalfe:* The small crop planted is poor; too late to ripen. *Mason:* A tenth of a crop.

INDIANA.—*Pike:* Looks well, but the crop will be small.

ILLINOIS.—*Massac:* Injured by drought.

MISSOURI.—*Chariton:* Suffered severely from drought. *Shelby:* Short.

POTATOES.

The average condition reported for the entire country is 83. In New England, where the crop has suffered scarcely any drawback, full reports return an average condition of 103. Throughout the remainder of the country, except on the Pacific slope, droughts, Colorado beetles, grasshoppers, and chinches, either singly or conjointly, have preyed on the crop to a greater or less extent. All these have combined to reduce the condition in Kansas to 20, and in Nebraska to 24. Elsewhere, the areas over which they have severally prevailed will be sufficiently indicated by the annexed notes from correspondents. The prevalence of rot is only noted in Otsego, New York. In the Middle States, except New York, ravages by the Colorados have been more extensive than heretofore.

MAINE.—*Penobscot:* Greatly improved by July rains. *Oxford:* Two weeks late. *Sagadahoc:* Rotting in some places. *Hancock:* Rotting.

NEW HAMPSHIRE.—*Hillsborough:* Yielding abundantly. *Grafton:* A good yield. *Sullivan:* Promising. *Cheshire:* Injured by drought.

VERMONT.—*Caledonia:* Some rot. *Franklin:* Have begun to rot.

CONNECTICUT.—*Windham:* Rotting. *New London:* Crop large, but commencing to

rot; late plantings badly eaten by worms and injured by late rains. *Litchfield:* Promising, but some varieties are rotting.

NEW YORK.—*Otsego:* Rot quite prevalent. *Albany:* Very poor. *Columbia:* Shortened by drought. *Rensselaer:* Poor crop; drought. *Genesee:* Suffering from drought. *Queens:* Improved; the new late Rose potato is highly spoken of. *Warren:* Suffering for rain. *Washington:* Drought. *Monroe:* Shortened by drought.

NEW JERSEY.—*Hudson:* Turning out well, especially Early Rose. *Gloucester:* Late white potatoes injured by Colorado beetles and drought. *Salem:* Colorado beetles very destructive. *Warren:* Shortened by drought.

PENNSYLVANIA.—*Butler:* Crops saved by fighting the worms. *Clearfield:* Seriously injured by bugs. *Franklin:* Almost destroyed by Colorado beetles. *Northampton:* Poor; drought and bugs. *Perry:* Destroyed largely by beetles. *Wayne:* Rotting. *Warren:* Colorado beetles successfully resisted; fine crop of potatoes, especially Early Rose. *Pike:* Drought. *Tioga:* Early plantings short; late ones look well. *Washington:* Badly injured by bugs and drought; poorest crop for many years. *Bedford:* First appearance of Colorado beetles; no great injury. *Bucks:* Notwithstanding the increased acreage, the drought will bring the yield down to less than average. *Lancaster:* Very much injured by bugs. *Luzerne:* Very serious drought. *Northumberland:* Shortened one-fifth by Colorado beetles. *Armstrong:* Very good where the bugs did not get at them.

DELAWARE.—*Sussex:* Greatly shortened by drought.

MARYLAND.—*Caroline:* Injured by Colorado beetles. *Dorchester:* Badly injured by Colorado bugs in some places. *Frederick:* The Colorado beetle is disappearing in some sections, but has done serious injury. *Queen Anne:* Badly injured by Colorado beetles. *Cecil:* Much injured by Colorado beetles. *Washington:* Nearly a failure through drought. *Baltimore:* Late crops injured by Colorado beetles.

VIRGINIA.—*Washington:* Poorest crop for many years. *Prince William:* Rain in time for late potatoes. *Loudoun:* Injured by Colorado beetles. *Page:* Injured by Colorado bugs.

NORTH CAROLINA.—*Beaufort:* Greatly improved by late rains. *Lincoln:* Almost an entire failure. *Greene:* Average.

GEORGIA.—*Carroll:* Never better. *Towns:* Improving rains.

ALABAMA.—*Choctaw:* Suffering for rain.

MISSISSIPPI.—*Kemper:* Badly injured by drought. *Madison:* The worst season for many years.

LOUISIANA.—*Franklin:* A good yield housed.

TEXAS.—*Wood:* Ruined by drought. *Red River:* Late reviving rains. *Dallas:* Quite a failure. *Austin:* Only early plantings will bring anything. *Cherokee:* Late rains saved half a crop.

ARKANSAS.—*Randolph:* Destructive drought. *Independence:* Nearly a failure. *Washington:* Almost a failure. *Arkansas:* Half crop.

TENNESSEE.—*Bledsoe:* Scarce through drought. *Bradley:* Ruined by drought. *Greene:* Very poor. *Blount:* Fine season. *Cheatham:* Almost a failure. *Dyer:* A complete failure. *Rhea:* Late plantings doing well. *Williamson:* A failure. *Monroe:* Early plantings ruined by drought; later ones improved by fine rains.

WEST VIRGINIA.—*Mercer:* Good. *Monroe:* Badly injured by insects. *Hardy:* Almost destroyed by Colorado beetles. *Lewis:* Shortened by drought. *Doddridge:* Early plantings injured by drought. *Boone:* Coming on finely.

KENTUCKY.—*Nicholas:* Nearly ruined by bugs. *Russell:* A failure. *Greenup:* Seasonable rains. *Owsley:* Greatly shortened by drought.

OHIO.—*Harrison:* Improved by late rains. *Crawford:* Much injured by long black beetles. *Van Wert:* Rains too late for early potatoes, but in time for late ones. *Ashland:* Promising; acreage far larger than ever before. *Ottawa:* Late plantings affected by drought; early kinds did well. *Medina:* Suffering for rain, especially late plantings. *Perry:* Bugs injured early crops. *Lucas:* Late potatoes not turning out well. *Geauga:* Late potatoes suffering for rain.

MICHIGAN.—*Charlevoix:* Suffering from drought. *Delta:* Late crops fine; earlier ones injured by bugs. *Kalamazoo:* Early crops injured by drought and bugs. *Hillsdale:* Injured by drought. *Bay:* Late potatoes injured by drought and bugs. *Berrien:* Much injured by drought. *Saint Joseph:* Shortened by the most severe drought and heat known in forty years. *Calhoun:* Drought. *Branch:* Very light. *Wayne:* Fine where not injured by hail. *Tuscola:* Fair in spite of bugs. *Grand Traverse:* Early crops shortened by drought; late ones promising.

INDIANA.—*Wabash:* Early potatoes good; late ones short through drought. *Whitley:* Good crop. *Marshall:* Shortened by drought. *Dearborn:* Affected seriously by drought. *Warren:* Suffering for rain. *Orange:* Tops eaten by cantharides by July 10; not enough left for seed. *Kosciusko:* Late crops suffering from drought. *Steuben:* Injured by drought. *Posey:* Injured by Colorado beetles. *Madison:* Good. *Decatur:* Nearly a failure. *Perry:* Look bad. *Crawford:* Shortened by drought.

ILLINOIS.—*Logan:* Rains too late to save the crop. *Sangamon:* Poor; all sorts of pests.

Alexander: Too dry. *Cook:* Parched by summer drought. *Tazewell:* Fine growing rains. *Whiteside:* Not doing well; a new winged beetle is destroying the Colorado beetle. *Moultrie:* Early plantings injured by drought; late ones better. *Cumberland:* Almost swept by bugs. *Shelby:* Bugs of both kinds worse than ever before known. *Vermillion:* Destroyed by drought. *Massac:* Early plantings injured by bugs. *White:* Nearly destroyed by beetles. *Montgomery:* Must have rain. *Henry:* Shortened greatly by August drought.

WISCONSIN.—*Adams:* Colorado beetles less destructive than usual, but the drought very serious. *Columbia:* Early Rose, good; Peach-blows nearly ruined by drought and bugs. *Outagamie:* Late crops injured by bugs.

MINNESOTA.—*Mower:* Poor. *Sibley:* Injured by drought and bugs.

IOWA.—*Washington:* Severe drought. *Howard:* Early plantings good. *Decatur:* Not half a crop. *Dallas:* Severely injured by Colorado beetles. *Henry:* Late copious rains have greatly improved late plantings. *Muscatine:* Late heavy rains will make late potatoes a full crop. *Calhoun:* Colorado beetles and drought materially injured the crop. *Polk:* Suffered greatly from bugs and drought. *Montgomery:* Late potatoes a failure. *Van Buren:* Fine growing rains. *Woodbury:* Shortened one-half by drought, grasshoppers, and Colorado beetles.

MISSOURI.—*Crawford:* Ruined by drought. *Caldwell:* Late potatoes nothing. *Platte:* Early crop fair, and selling at 80 cents per bushel; no late crop. *Ray:* Seriously injured by protracted drought. *Shelby:* Short. *McDonald:* A failure. *Phelps:* Late plantings hardly make seed. *Johnson:* Dried up. *Grundy:* Late crops failed; Early Rose, a fair yield. *Cole:* Early crops good; late ones failed.

KANSAS.—*Mitchell:* Only a few potatoes, and those of early planting. *Bourbon:* Complete failure. *Osage:* Total failure. *Republic:* Early, a fair crop; late, an entire failure, owing to protracted drought. *Barton:* Early, half crop only, by reason of drought and large green tobacco-worm; late, entirely destroyed by grasshoppers.

NEBRASKA.—*Dawson:* Utterly destroyed by Colorado beetles. *Lincoln:* Eaten by a cantharis. *Nuckolls:* All late potatoes have failed to mature, owing to extremely hot and dry weather. *Gage:* Will be no late potatoes, owing to drought and grasshoppers. *Otoe:* Late potatoes about destroyed by drought.

OREGON.—*Clackamas:* Injured by late rains.

SWEET-POTATOES.

As the entire sweet-potato area has been more or less affected by drought, our returns show that the condition of this crop is from 8 to 10 per cent. below average.

VIRGINIA.—*Washington:* Fair crop. *Northampton:* A very remunerative crop. *Chesterfield:* Crop large and profitable.

NORTH CAROLINA.—*Greene:* Two-thirds of a crop.

SOUTH CAROLINA.—*Williamsburgh:* Will suffer materially from a severe drought.

GEORGIA.—*Clinch:* Very fine. *Dooly:* Badly damaged by drought. *Sumter:* Injured by drought; acreage increased. *Taylor:* Injured by drought and hot winds. *Terrell:* Injured by heat and drought.

FLORIDA.—*Columbia:* Injured by drought. *Wakulla:* Injured by drought.

ALABAMA.—*Chambers:* Crippled by drought. *Montgomery:* Injured by drought. *Conecuh:* Look well, but mature slowly.

MISSISSIPPI.—*Pike:* Injured by drought. *Holmes:* Extremely shortened by drought.

LOUISIANA.—*Franklin:* Severely injured by drought. *Jackson:* A general failure.

TEXAS.—*Upshur:* Half crop. *Titus:* Drying up. *Karnes:* Drought cut down the crop 25 per cent. below last year. *Burnet:* A total failure. *Ellis:* Greatly shortened, if not ruined. *Grayson:* Shortened by drought.

ARKANSAS.—*Independence:* Nearly a failure. *Crawford:* Very short. *Arkansas:* Half crop.

TENNESSEE.—*Greene:* Look well. *Cheatham:* Look tolerably well. *Monroe:* Light.

ILLINOIS.—*Cumberland:* Good.

IOWA.—*Harrison:* Culture profitable and increasing.

NEBRASKA.—*Dixon:* Escaped the ravages of the grasshoppers.

COTTON.

Our September returns indicate a heavy decline in the prospects of the cotton-crop in all of the States except Virginia, in which the condition remains about the same as in our August report. The crop of Virginia, however, is too small to influence the general result to any appreciable extent.

In North Carolina the leading complaint in several counties on the coast and in the northern part of the State is, cool nights, arresting vegetation, in some cases accompanied by late rains producing rust. The earlier part of the season having been favorable, the bottom crop is generally good, but the middle and top crops have in some counties been greatly injured, if not destroyed. In some cases the weed is large, but the fruit is scanty and imperfect. In several counties in the interior a damaging drought set in about the middle of August, which caused copious shedding of forms. Several counties report very fine crops, having escaped the injurious conditions of growth so serious in other parts. Moore County reports the finest crop since 1865; Pasquotank better than last year and full average; in Pamlico the drought only reduced a superabundant crop to an average. In one or two other counties the crop is promising. The State average declined 15 per cent. during August.

The same general conditions are apparent in South Carolina. Damp weather in some places has caused an excessive growth of weed with very little fruit. Rust and drought have injured many crops. Several counties report a good prospect, although the bolls were opening late. The general tone of the reports, however, is less hopeful, and the prospects of the crop declined 13 per cent. since the last report.

In Georgia a decline of 17 per cent. is noted. Protracted drought is the leading cause of this decline, but in many counties it was accompanied by extreme heat and hot, blasting winds. The destructive efficacy of the drought was not in all cases proportioned to its length. In Dooly County some promising fields were parched within half an hour. In Baker all the blooms of three weeks opening were blasted. Where drought was less severe, in some cases the weed grew at the expense of fruit. In other cases the close of the drought was marked by storms of rain and hail, doing serious injury to the remnant of the crop. In a few counties, such as Clinch, De Kalb, Elbert, and Sumter, the prospect is reported as good.

In Florida there is a decline of 25 per cent. In some counties, as Levy, alternate flood and drought ruined the crops on the best lands, causing great discouragement among farmers and a desire to emigrate. In other counties severe drought alone, and in others heavy rains, are alleged as causes of the decline.

In Alabama, though the same injurious causes have been operative, the general decline—9 per cent.—has been smaller than in any other great cotton State. In some counties it was noticed that high fertilization reenforced the injurious influence of the drought, which was more generally distributed, as there are fewer counties reporting promising crops.

Mississippi reports a decline of 15 per cent. The general cause of injury here was drought, which manifested itself more destructively upon upland than upon bottom crops. In Washington County but one rain has fallen since April.

In Louisiana the falling off amounts to 21 per cent. The drought appears to grow in virulence toward the Southwest. The intense heat and blasting, hot winds are more frequently noted. In Tensas the crops having been planted mostly upon lately-overflowed lands, the drought, instead of working injury, seems to have been beneficial, especially in repressing noxious insects. All other reports, however, are of a gloomier tone.

The most marked change in the prospects of the crops is found in Texas. From an average of 105 on the 1st of August, the prospects fell to 65—a loss of 40 during August. The untoward influences

that had affected the crop in the other Gulf States here found their culmination. In some counties no rain had fallen since May. Simoom winds prevailed in numerous localities, withering all vegetation. Kendall County, however, promises an unprecedented yield. In Liberty, drought was felt but slightly. Upshur expected to equal last year's crop, but such expectations are rare.

In Arkansas and Tennessee the drought of August combined with that of the earlier season previously reported; in several localities no rain has fallen since April, and in some of these the injury was aggravated by hot winds. Arkansas has declined 40 per cent. and Tennessee 31 per cent.

Injurious insects appeared at several points in the cotton area, but their ravages were seldom such as to excite any remark. The conditions so injurious to vegetation were no less repressive of insect-life.

The State averages are as follows: Virginia, 98; North Carolina, 87; South Carolina, 86; Georgia, 77; Florida, 77; Alabama, 81; Mississippi, 74; Louisiana, 62; Texas, 65; Arkansas, 47; Tennessee, 52. The following notes of our correspondence will give some salient local features of the crop:

VIRGINIA.—*Sussex:* Looks much better than at this time last year. *Prince George:* Cool nights have caused rust; shedding forms and bolls. *Southampton:* Injured by cool nights, causing rust and premature opening. *Greenville:* Promising.

NORTH CAROLINA.—*Pimlico:* Drought has reduced cotton, but bolls enough are left for an average crop; the worm has appeared lately, but the weather is too cold for serious damage. *Beaufort:* Seriously damaged by rust; almost every crop affected. *Cleveland:* Runs too much to weed; bolls and squares dropping off. *Pitt:* Looked well till August 15, when rust came; bottom crop good, but top crop nearly ruined. *Chowan:* Seriously injured by heavy rains and cool weather; rusty; shedding leaves and bolls. *Franklin:* Cotton season very unfavorable; rust has destroyed the top crop. *Gaston:* Injured by hot days and very cool nights. *Granville:* Slightly damaged by cold nights. *Lenoir:* Suffering for rain. *Lincoln:* Materially injured by a drought of five weeks. *Mecklenburgh:* Large and tender stock full of sap, but deficient in bolls; rust in many places, and in others shedding of forms. *Pasquotank:* Better than last year; full average and forward as usual. *Wayne:* Damaging cool weather; a great failure foreshadowed. *Martin:* Two-thirds average; worst kind of season since July 20. *Bladen:* Rusted from late rains. *Hertford:* Promises a heavy yield. *Onslow:* Weather unfavorable to late crops. *Alexander:* Season fine for late crops. *Currituck:* Looks well, though injured by cool August and July. *Edgecombe:* Rust and blight injuring the crop; flooding rains. *Camden:* Good, if frost delays. *Davidson:* Two weeks late in maturing. *Moore:* Finest crop since 1865. *Perquimans:* Cold, wet weather for two weeks caused the forms and bolls to shed; suffering heavily on light lands, 33 per cent.; only 10 per cent. on clay soils. *Rowan:* Fine, but late. *Anson:* Weed large, but poorly fruited; rust in some places. *Greene:* Rust has injured the crop from one-fourth to one-third; some crops dead and dry enough to burn. *Person:* Below average. *Stanly:* Fine growth of weed, but the late cold spell has greatly injured the bolls, some of which show a rotten interior. *Wake:* General complaints of rust and scarcity of bolls, but the crop still promising.

SOUTH CAROLINA.—*Fairfield:* Crop doing well; no caterpillars; opening later than last year, but mature bolls are numerous. *Barnwell:* Fallen off 5 per cent. from drought; no worms. *Clarendon:* Large weed, but little fruit; rust becoming general. *Chesterfield:* Rusted badly. *Darlington:* Injured seriously by rust; top crop opening rapidly. *Laurens:* Larger weed than last year, but not so well fruited. *Union:* Great injury from heat, drought, and storms. *Edgefield:* Drought injuring early crops, causing young fruit to drop. *Marion:* Top crop drying up to some extent, yet the bolls were so numerous that the crop will probably be full average. *Lexington:* Not over a half crop; drought caused the bolls to fall. *Beaufort:* Rains have caused the fruit to shed; some rust and caterpillars. *Marlborough:* Early bolls have yielded well, but rust has injured later ones; rain and cold nights. *Georgetown:* Too much rain; weed copious, but fruiting unsatisfactory. *Newberry:* Fruit dropped badly; half a crop. *Richland:* Drought caused much shedding; some complaints of rust. *Spartanburgh:* Not fruiting well. *York:* No August crop; badly injured by lice, rust, and cold nights. *Williamsburgh:* Has yellow-leaf badly; leaves look as sere as they ordinarily do in November.

GEORGIA.—*Bartow:* Three weeks' drought caused copious shedding; fine rains recently. *Dodge:* Injured by rust, caterpillars, and drought. *Hart:* Plenty of weed,

but little fruit; decreased amount of fertilizers used; some fields injured by hail. *Bullock:* Opening too fast, and shedding leaves and fruit. *Carroll:* Four weeks' drought caused shedding. *Catoosa:* Drought causing squares to fall. *Clinch:* Considerably above average. *Columbia:* Unprecedented decline within a week through extreme drought and heat. *De Kalb:* Injured in a few localities by drought, but the most of the county has had abundant rain, making the cotton large and well fruited, though rather late. *Dooly:* Badly injured by drought and storms of hot wind; some promising fields were parched within half an hour. *Douglas:* A month's drought stripped off one-fourth of the forms and small bolls. *Elbert:* Two weeks late, but promising. *Effingham:* Badly rusted. *Telfair:* Backward. *Gordon:* Top forms falling. *Hall:* Fallen 1 per cent. per day for ten days. *Hancock:* Severe drought; nearly all the middle and top bolls fell; cannot make over a half crop at best. *Harris:* Caterpillars came August 5; crop later than usual; drought has caused much shedding. *Heard:* Severe hot drought materially injured the crop. *Henry:* Protracted drought has caused rapid shedding of forms. *Liberty:* Caterpillars reported, but do not cause very great alarm. *Mitchell:* Three weeks of drought and extreme heat have caused cotton to shed forms severely; there will be no top crop and a very small middle crop. *Muscogee:* Drought has injured early plantings and retarded late plantings. *Pierce:* Five weeks of drought and severe heat cut off the late crop. *Randolph:* Injured one-fourth by extreme heat. *Scriven:* Unprecedented decline in five weeks. *Stewart:* Very badly injured by protracted heat and drought; most of the later bolls have dried up; no rain for six weeks. *Sumter:* Crop average; there having been no general rain, the crop is too tough for the caterpillar. *Taylor:* Severely injured by drought and hot winds from the northwest; top crop destroyed and middle crop greatly reduced. *Terrell:* Greatly injured by drought. *Troup:* Severe damage from drought and shedding of large bolls. *Walton:* Badly injured by drought and extreme heat. *Whitfield:* Badly injured by drought. *Taliaferro:* Hot winds have cut the crop down to nearly half average. *Wilkinson:* No late crop can be made; rust in spots; bolls small; but little over a half crop can be made. *Chattooga:* Badly injured by drought. *Fulton:* Shortened 20 per cent. by drought. *Morgan:* Early cotton shed profusely from heat, and opened prematurely; rain injured the open bolls; fertilized cotton shed most freely; late crop doing well. This year we used 769 tons of fertilizers and expect 7,000 bales. *Baker:* Damaged by drought of four weeks; blooms of three weeks past all blasted. *Jackson:* Badly injured by drought. *Lee:* Serious injury from drought. *Macon:* Shortened by drought 25 per cent. *Madison:* Late; poorly fruited. *Marion:* Shortened 25 per cent. by August drought. *Twiggs:* Three weeks of heat and drought, unequaled in thirty years, have done incalculable injury; not over two-thirds of a crop. *Wayne:* Drought. *Banks:* Late reviving rains. *Brooks:* Drought caused rust and shedding of bolls. *Cobb:* Two weeks late; drought caused shedding of small bolls and forms. *Fayette:* Plenty of rain, benefiting cotton greatly. *Floyd:* Greatly injured by five weeks of drought and intense heat. *Murray:* Very injurious drought. *Gwinnett:* Nearly average; slightly injured by two weeks' drought in August; shedding late forms; acreage decreased 1,000 acres. *Jefferson:* Badly injured by rain; more rain fallen than for twenty years; rust. *Putnam:* Shedding forms and bolls. *Wilkes:* Suffered from extreme heat; bolls falling badly.

FLORIDA.—*Hamilton:* Injured 10 per cent. by drought. *Jackson:* Sporadic boll-worms and rust, but probably a larger crop than last year. *Jefferson:* Injured by drought. *Madison:* Drought has caused fruit-shedding and rust. *Wakulla:* Damaged by heat and drought. *Columbia:* Caterpillars plenty, but doing less damage than usual. *Leon:* Boll-worm did much damage; caterpillars increasing, but slowly. *Levy:* Injured by alternate floods and drought; crops on the best lands ruined, causing people to desire to emigrate. *Taylor:* Ruined in places by heavy rains.

ALABAMA.—*Henry:* Severely injured by the hottest short drought—three weeks in August—ever known here; boll-worm injurious. *Lowndes:* Cut down half by the unprecedented heat. *Russell:* Four weeks of hot, dry weather have caused cotton to shed forms badly; caterpillars cut down late cotton one-half; Paris-green used but little. *Chambers:* Shed heavily under a three weeks' drought. *Pike:* Hopelessly gone; not over a half crop. *Saint Clair:* Shedding through drought; hottest August ever known here. *Choctaw:* Suffered from drought. *Covington:* Drought beneficial, keeping back the caterpillars. *Greene:* Drought disastrous. *Hale:* Crop shortened on uplands by six weeks' drought; has sustained itself on rich slough and bottom land. *Lee:* Stand late and bad, but was doing well till the drought, commencing August 1, when it was shortened one-third; especially injuring manured fields. *Macon:* Shed most of the squares and small bolls; some damage by boll-worm. *Montgomery:* Considerably injured by drought. *Dale:* Destructive drought; no top crop. *Colbert:* Little over half crop; extreme heat. *De Kalb:* Extreme heat and high fertilization injured the crop very seriously. *Marion:* Late and shortened by drought. *Franklin:* Drought caused the bolls and squares to fall to some extent. *Lawrence:* Very unequal; some crops injured by drought; others better than last year. *Limestone:* Prospect blasted by drought. *Wilcox:* Shortened by extreme heat, especially on light uplands. *Autauga:*

Seriously injured by drought in many places; blooms and small bolls falling. *Blount:* Extreme heat and scorching winds ruined the growing bolls and squares, reducing the crop to half average. *Conecuh:* Doing well till drought caused shedding. *Dallas:* Shortened 25 per cent. by drought and intense heat; bottom crops injured by caterpillars. *Perry:* Shortened by excessive heat and drought.

MISSISSIPPI.—*Lauderdale:* Shortened half by drought. *Coahoma:* Crop late and drought disastrous. *Noxubee:* Upland ruined by drought; bottoms not so seriously affected. *Amite:* Over average promise, though suffering some from drought. *Covington:* Shortened by drought. *Grenada:* Suffered from drought and hail-storms. *Jasper:* Injured by drought and worms; bolls falling. *Pike:* Injured by drought; forms and young bolls shedding badly. *Warren:* Crops on light lands shedding badly; weather unfavorable to worms. *Hinds:* Ruined by late drought. *Holmes:* Severe drought has caused copious shedding. *Panola:* Ruined by drought almost. *Jefferson:* Shed very rapidly; rust very injurious. *Attala:* Drought caused rapid shedding and premature opening. *Kemper:* Badly injured by drought. *Lincoln:* Early plantings promising; later ones seriously affected by drought. *Smith:* Half average. *Yalabusha:* Shortened one-half by drought; shedding badly. *De Soto:* Greatly injured by nine weeks' drought, with cool, drying winds. *Madison:* Seriously injured by long drought; middle crop lost, and top crop poor. *Wilkinson:* Some injury from caterpillars; some shedding, but the crop on the whole is a fair average. *Lee:* Great injury from drought. *Tishamingo:* Long drought. *Washington:* But one rain since April; cotton shedding and turning yellow. *Adams:* Uplands shedding badly from drought; bottoms doing better. *Marion:* Drought. *Rankin:* Decline of 30 per cent. from drought.

LOUISIANA.—*Bienville:* Materially damaged by protracted drought. *Union:* Reduced one-half by drought and hot, dry winds; thermometer at 104° in the shade. *Caddo:* Shortened one-half by drought. *East Baton Rouge:* Fine till it commenced shedding two weeks ago; prospect reduced 5 or 10 per cent. *East Feliciana:* Six weeks' drought very destructive. *Franklin:* Damaged by drought; in some places nearly all the forms have fallen; on land recently overflowed cut-worms have swept the crops. *Iberia:* Weather remarkably favorable for the maturing of cotton. *Madison:* Greatly improved within thirty days. *Moorehouse:* Disastrous five weeks' drought; bolls falling to an alarming extent. *Richland:* Shedding forms and blooms very copiously. *Washington:* Not over two-thirds of a crop at best. *Carroll:* Long-continued drought caused copious shedding. *Jackson:* Drought has caused shedding and premature opening; half a crop. *Claiborne:* Nearly dried up the top crop. *Tensas:* Most of the cotton being planted on overflowed land, the drought is very favorable; blooming finely and bolls swelling rapidly; too dry and hot for worms. *Concordia:* Shedding badly on sandy soils; doing well on black soils. *Rapides:* Growth checked by drought; bolls and leaves shedding copiously. *West Feliciana:* Injured by six weeks' drought; early planted shed very copiously; late planted not so bad.

TEXAS.—*Austin:* Badly injured by drought, especially on sandy uplands; plants have stopped growing; blooms and bolls dropping; not over a half crop. *Bandera:* Shedding. *Shelby:* Half crop on uplands; bottoms better. *Waller:* Shortened by excessive heat and drought; fallen squares and forms covered the ground like a carpet. *San Jacinto:* Drought injured upland cotton, but benefited the bottom crops; worms on hand, but doing little damage. *Bosque:* Early cotton beyond redemption; late reduced 50 per cent. by drought. *Caldwell:* Eight weeks' drought. *Colorado:* Prospects for a heavy yield cut off by drought and worms, but the yield will be greater than last year. *Dallas:* A third of a crop. *Fannin:* Light on sandy soil; on black land two-thirds of a crop. *Goliad:* Suffering from drought. *Kaufman:* Shortened by drought; shedding badly; not over 300 pounds seed-cotton per acre. *Kendall:* Promises an unprecedented yield. *Liberty:* Affected but slightly by drought. *Marion:* Not over a third of a crop. *Milam:* Shedding badly; reduced a third within a month. *Palo Pinto:* Half crop. *Parker:* Not 100 pounds to the acre; some fields will not be picked at all. *Polk:* Far ahead of last year. *Rusk:* Half a crop; shedding and drying up. *Titus:* Stand late and poor; damaged by drought and boll-worms. *Upshur:* Will be equal to last year. *Wood:* Ruined by drought. *Karnes:* Drought cut down the crop to 10 per cent. below last year. *Matagorda:* Materially injured by drought. *Hunt:* Half crop; no rain since May 20. *Lavaca:* Drought of seven weeks; worms active in spite of heat, and would be very destructive but for Paris-green. *Anderson:* Drought withering everything; simoon winds; half the springs and wells and all the streams dry. *Burnet:* Extreme drought; will not get 200 pounds seed-cotton per acre. *Comanche:* No rain since July; cut short. *Cooke:* Succumbing to drought; probably a fourth of a crop. *Ellis:* Ruined; a bale from four to six acres. *Fort Bend:* Shedding forms fast; half a crop. *Grayson:* Shortened by drought. *Harris:* Upper forms dropping, but still the crop promises above average. Paris-green effectively applied to the destruction of worms. *Medina:* Suffering from drought. *Falls:* Ruined by excessive drought and heat. *Hood:* The early promise of a bale per acre was blasted by the severe drought; no rain since July 3; intense heat. *Fayette:* Shortened by the severe drought. *Gillespie:* Destructive drought. *Washington:* Severe drought. *Gonzales:*

Drought causing profuse shedding. *Houston:* Being late planted the crop was destroyed by drought.

ARKANSAS.—*Franklin:* Will average 200 or 250 pounds per acre seed-cotton. *Hempstead:* Rapidly failed in two weeks past; drought and hot winds. *Randolph:* Destructive drought. *Independence:* Cotton which in July promised a bale per acre will not yield a third of it; uplands will make a bale to ten acres. *Izard:* Half crop; drought. *Jefferson:* Hundreds of acres never came up. *Monroe:* Disastrous drought; half a crop. *Crawford:* Bottom crops splendid; uplands almost a complete failure. *Lafayette:* Quarter crop; no rain since May. *Scott:* Drought. *Ashley:* Terrible drought. *Bradley:* Disastrous drought. *Calhoun:* Entire failure; no rain since May. *Pulaski:* Only one rain since April 20; dead as a November frost could make it. *Fulton:* Withering drought and hot winds. It will be a benefit if it teaches farmers to diversify their crops. *Prairie:* Devastating drought. *Woodruff:* Excessive drought, extreme heat, and hot winds have cut off the crop one-half. *Sharp:* Cooked by hot winds. *Dorsey:* Disastrous drought of ninety days; a third of last year's crop. *Drew:* Destroyed by drought, heat, and parching winds. *Newton:* Burned up. No rain since June 1.

TENNESSEE.—*Hardin:* Suffered greatly from drought. *Loudoun:* Two-thirds of a crop. *Dyer:* Shortened two-thirds by drought. *Madison:* Not a third of a crop.

HAY AND PASTURES.

The product of hay, compared with last year, is, in Maine, 83 per cent.; Pennsylvania, 95. The remaining New England and Middle States range from 110 in New Hampshire and Vermont to 134 in New York and New Jersey; Virginia, 105; North Carolina, 102. The other South Atlantic and the Gulf States range from 98 in South Carolina to 67 in Louisiana; Arkansas, 62; Tennessee, 76; West Virginia, 67; Kentucky, 54. In the Northwest States the extremes are: Ohio, 72, and Minnesota, 99; Missouri, 91; Kansas, 85; Nebraska, 87; California, 122; Oregon, 106.

In the production of timothy, compared with last year, the New England and Middle States range, taken together, considerably higher. The highest are, Vermont, 114, and New York, 126. Only two fall below—Maine, 87, and Pennsylvania, 93. The product equals that of last year in Nebraska. In Oregon it is 2 per cent. above. The Gulf States and California do not report any timothy worth mentioning. In the remaining States the product, compared with 1873, ranges between 49 in Kentucky and 96 in Virginia and North Carolina. Our returns indicate that this crop, on the whole, was secured in excellent condition. Among the States in which it is an important product the figures are: Wisconsin, 100; Maine, Massachusetts, Pennsylvania, Illinois, and Minnesota, 101; Vermont, 102; New Hampshire and New Jersey, 103; New York and Nebraska, 107; Rhode Island, 108; Connecticut, 109. South Carolina returns 100; Mississippi, 105; Virginia and Iowa, 97; Maryland and Oregon, 98; Michigan and Missouri, 99. Other States range between 82 in Tennessee and 95 in Indiana.

The following facts of local interest are noted:

Allegany, N. Y., reports millet sown in large acreage, unusually good, "and the best kind of hay in the county." Franklin: The largest hay-crop for twenty years. Henrico, Va.: A finer crop of clover than ever before. Chesterfield: A yield of 4 tons of clover to the acre. Mecklenburgh: Increased attention to grasses, and encouraging results from trials of timothy. Parker, Texas: That while prairie-grass dried up, Hungarian turned out well. In Lawrence, Tenn., German millet stood the drought well. It also yielded well in Dickson, but was injured by the army-worm. In Cheatham, grass-crops were badly injured by the army-worm. In Grant, W. Va., timothy was injured by chinches. In Republic, Kansas, more hay was put up than in any previous year; also in Barton, in spite of the drought, where the buffalo-grass is giving way to

larger kinds of prairie-grass. In Crawford, where little hay except from prairie-grass is produced, there is a fair crop of that, since chinches do not attack it. In Otoe, Neb., more wild hay than usual was put up, owing to the shortness of crops.

PASTURES.—Reports from New England concur in representing the condition of pastures and the prospects for fall feed as unusually good.

From the Pacific slope there is no complaint, and very little from Missouri. With rare exceptions, reports are favorable from West Virginia and Kentucky, the South Atlantic and Gulf States, and from the Western Territories. In the remaining parts of the country pastures have been reduced considerably below average condition by the prevailing summer drought. Yet, very generally, recent rains are rapidly changing the aspect for the better. This is especially true in the Ohio Valley. Among counties reporting pastures dried up to such a degree as to necessitate the feeding of stock, are Camden, N. J.; Luzerne, Pa.; Trumbull, Ohio; Montcalm, Mich.; and Putnam, Ill.

MAINE.—*Aroostook:* Hay-crop light. *Sagadahoc:* Fall-feed abundant. *Piscataquis:* Deficiency of hay made up by cutting swale and other grasses.

NEW HAMPSHIRE.—*Hillsborough:* Hay above average. *Carroll:* Fall-feed abundant. *Rockingham:* Hay-crop large and well secured.

VERMONT.—*Caledonia:* Hay did well; second crop unusually large. *Rutland:* Hay-crop excellent in quality and condition. *Orleans:* Large crops of timothy and natural grasses, but little clover.

MASSACHUSETTS.—*Berkshire:* Increased bulk, but diminished weight; selling at the low prices of $12 to $12.50 per ton.

CONNECTICUT.—*Hartford:* Grass as green and fresh as in June.

NEW YORK.—*Steuben:* Fall pasture improving. *Allegany:* Millet unusually good and sown in larger acreage; best kind of hay in the county. *Erie:* Drought injuring pastures. *Franklin:* Largest hay-crop in twenty years. *Otsego:* Hay-crop unusually heavy; after-feed shortened by drought. *Albany:* Hay a splendid crop, and generally well secured. *Washington:* Pasturage abundant. *Broome:* Extreme drought; no aftermath; all crops reduced. *Rockland:* No rain in August; pastures drying up. *Sullivan:* A very large crop, gathered in excellent condition.

NEW JERSEY.—*Hudson:* Hay-crop large and secured in fine order; largest yield for two years. *Warren:* Hay-crop good and well secured. *Monmouth:* Drought shortening pastures; if rain does not come soon we will find a home-market for our large hay-crop. *Camden:* Pastures short; many farmers feeding stock; no rain since August 8.

PENNSYLVANIA.—*Butler:* Very light. *Philadelphia:* Late pastures have suffered severely from drought. *Lawrence:* Pastures burned up; stock suffering for want of feed and water. *Pike:* Drought. *Tioga:* Hay never secured in better order. *Washington:* Fall pastures excellent. *Bedford:* Hay damaged by drought. *Beaver:* Greatly shortened by drought. *Cambria:* Drought destroyed the hay-crop. Pastures burned up for want of rain.

MARYLAND.—*Queen Anne:* Pastures burned up. *Saint Mary's:* Pastures dried up.

VIRGINIA.—*Pulaski:* Very fine grass season. *Tazewell:* Pastures good. *Henrico:* Timothy light, but clover finer than ever before. *Fairfax:* Pastures greatly improved by late rains. *Mecklenburgh:* Trial with timothy encouraging; increased attention to grasses. *Chesterfield:* Clover yields 4 tons per acre; hay-crop large. *Craig:* Fall pastures above average. *Loudoun:* Successive years of drought have caused the old turf to be broken up; chinches injured grass. *Louisa:* Pastures better than might have been expected from the drought. *Madison:* Saved in excellent condition.

NORTH CAROLINA.—*Beaufort:* Greatly improved by late rains. *Alexander:* Season fine for late pastures. *Ashe:* Grass-crops affected severely by drought.

SOUTH CAROLINA.—*Chesterfield:* Good season for grass, but hay-crop small. *Newberry:* Drought favorable for curing hay. *Richland:* Hay-crop shortened by grass army-worms.

FLORIDA.—*Jackson:* Pasturage of native grasses in good condition. *Orange:* Guinea grass very successful.

ALABAMA.—*Montgomery:* Native grasses abundant; large yield of hay. *Calhoun:* Early hay-crop good.

MISSISSIPPI.—*Holmes:* Too dry for even crab grass. *Kemper:* Hay-crop badly injured by drought.

TEXAS.—*Williamson:* Hay-crop short. *Parker:* Prairie-hay dried up, but Hungarian grass turned out well. *Austin:* Very light. *Goliad:* Range good. *Comanche:* Pasture failing. *Medina:* Pasture suffering from drought.

ARKANSAS.—*Carroll:* Hay-crop all dried up.

TENNESSEE.—*Bledsoe:* Hay very short. *Lawrence:* German millet stood the drought well; hay-crop good. *Loudon:* Pastures burned up or eaten by grasshoppers. *Cheatham:* Grass-crops badly injured by army-worms. *Dyer:* Large quantities of rye and wheat are being sown for winter pasture, and large crops of turnip-seed sown; with all possible economy many will suffer for food. *Lincoln:* Grass-crops failed, but as the rain is falling freely we hope for good fall pastures. *Macon:* Pastures very good. *Obion:* Pastures burned up; no rain to wet the ground three inches since April. *Grainger:* Timothy injured after cutting; clover saved in good condition. *Williamson:* Timothy a complete failure; millet will help out very much; pastures short. *Dickson:* German millet good, but injured by grass army-worms. *Monroe:* Hay harvested in fine order, but light.

WEST VIRGINIA.—*Braxton:* Hay falls much below average, but late rains have greatly improved pastures. *Mercer:* Hay-crop cut down one-third by drought. *Monroe:* Hay a third of a crop, but of good quality. *Morgan:* Pastures growing finely. *Preston:* Hay short, but good. *Ritchie:* Pastures unusually good. *Grant:* Timothy injured by chinches. *Boone:* Pastures good. *Harrison:* Fall pastures good.

KENTUCKY.—*Daviess:* Three-fourths of the land intended for tobacco was sown in Hungarian grass or millet. *Hardin:* Pastures coming up through late rains, and stock looks well. *Jefferson:* Drought still continues; pastures drying up; water for stock becoming scarce. *Laurel:* Fall pastures promise to be very good. *Jessamine:* Prospect of fine fall and winter pasture. *Nicholas:* Exceedingly light crops. *Oldham:* Hay-crop failed. *Mercer:* Fall grass coming up. *Spencer:* Shortened by drought, lasting from May 1 to August 29. *Taylor:* Fall pastures benefited by late rains. *Grayson:* Pastures fine from late rains. *Logan:* Rains have started fall pastures. *Metcalfe:* Never better pasturage.

OHIO.—*Harrison:* Injured by late rains. *Logan:* Injured by winter-freezing and summer-drought; hay well saved. *Trumbull:* Pastures failing fast; dairymen feeding largely with bran and shorts. *Hocking:* Fine pastures; good rains. *Athens:* Fall pastures more abundant than for years. *Medina:* Pastures and meadows suffering for rain. *Meigs:* Pastures fine; cows cheap and hay dear. *Perry:* Drought killed most of the young timothy and clover. *Columbiana:* Pasture dying. *Geauga:* Fall-feed shortened by drought.

MICHIGAN.—*Lenawee:* Hay shortened by winter-killing and drought. *Menomonee:* Good hay-crop, well secured. *Montcalm:* Very dry; some farmers feeding cows. *Calhoun:* Grass seriously injured by drought. *Shiawassee:* Hay well secured and fine.

INDIANA.—*Cass:* Clover-seed yield light. *Dearborn:* Hay ruined by drought. *Martin:* Recent rains fine for pastures. *Warren:* Pastures suffering for rain. *Orange:* Blue-grass growing fast. *Steuben:* Clover light; timothy good; late pasture dried up. *Fountain:* Pastures burned out and cattle suffering for grass and water. *Crawford:* Greatly shortened by drought. *Franklin:* Shortened by drought. *Spencer:* Pastures very good.

ILLINOIS.—*Logan:* Pastures improved by late rains. *Winnebago:* Pastures dried up by scorching south winds. *Alexander:* Too dry. *Cook:* Parched. *Putnam:* Late rains started the grasses, but many are feeding stock. *Tazewell:* Fine growing rains. *Wayne:* Fall pastures growing under fine rains. *Macoupin:* Fall pastures extra fine; in thirty-six years' residence I have never known such heavy rains as within the last two weeks. *Marshall:* Pastures improved by late rains. *De Kalb:* Improved by late rains. *Iroquois:* Pastures improved by recent rains. *Whiteside:* Pastures short. *Madison:* Grasses thin. *Carroll:* No second crop of hay. *Shelby:* Fine rains, bringing out pasture. *Vermillion:* Pastures burned up, but revived by late rains. *McHenry:* Pastures short; severe drought. *Piatt:* Pastures improving.

WISCONSIN.—*Fond du Lac:* Pastures short from drought. *Columbia:* Pastures dried up; wells and springs failing. *Green:* Half eaten by chinches. *Pierce:* Hay materially shortened. *Clark:* Early mowings above average. *Jefferson:* Meadows suffered from drought. *Richland:* Fall feed badly dried up.

MINNESOTA.—*Steele:* Soaking rains bringing out grass. *Green:* Pastures dried up.

IOWA.—*Floyd:* More wells dry than ever before known; pastures bare. *Henry:* Fall pasture abundant; late copious rains. *Lee:* Timothy abundant. *Louisa:* Abundant fall pasture; excellent rains. *Appanoose:* Fall pasture better than for years; fine rains. *Fremont:* Pastures killed by drought. *Van Buren:* Fine growing rains for pasture. *Bremer:* Pasture benefitted by heavy rains. *Howard:* Timothy and clover hay good; prairie shortened by drought. *Buchanan:* Hay light.

MISSOURI.—*Platte:* Injured by grasshoppers. *Clinton:* Hot southwest winds blasted grass in spots. *Newton:* Hay light. *Schuyler:* Fall pastures extra fine. *Knox:* Hay short. *Clay:* Pastures dry as cured grass; stock water scarce.

KANSAS.—*Cherokee:* Much hay being cured; quality good. *Nemaha:* Farmers are putting up plenty of hay to supply the losses inflicted by grasshoppers. *Mitchell:* Hay-crop shortened by drought. *Neosho:* Much hay secured; stock will winter well. *Osage:* Hay shortened by drought. *Republic:* Prairie hay short. More put up than in any previous year. *Burton:* The buffalo-grass of the plains is giving way to the larger

kinds of prairie-grass, and in spite of the drought there is more hay in the county than ever before. *Crawford:* Have but little hay except from prairie-grass, which is fair. The chinches do not injure that. *Miami:* Prairie-hay generally fair; a plenty of fodder.

NEBRASKA.—*Otoe:* More wild hay put up than usual, owing to the short crops.

OREGON.—*Clatsop:* Grass crops heavy and well secured.

STOCK HOGS.

The apprehended scarcity of feed in all quarters of the Union has caused a general reduction in the numbers kept for fattening. Delaware, Georgia, and Texas are the only States in which the number retained is equal to last year. The condition is above average only in Vermont, Massachusetts, Connecticut, Delaware, Texas, Minnesota, California, and Oregon.

VIRGINIA.—*Bland:* Hogs scarce. *Bedford:* Stock of hogs depleted by cholera. *Chesterfield:* Fewer than since 1866; good mast and corn crop. *Madison:* Hogs scarce and small. *Elizabeth City:* Stock increasing.

NORTH CAROLINA.—*Granville:* Many died from eating mushrooms. *Caldwell:* Increasing, but not in remarkably good condition.

GEORGIA.—*Dooly:* Dying fast from cholera; no remedy. *Laurens:* Dying fast from cholera.

ALABAMA.—*Covington:* Cholera very fatal. *Winston:* Hogs nearly all died of cholera.

MISSISSIPPI.—*Marion:* Cholera destroyed 85 per cent. of the hogs.

ARKANSAS.—*Crittenden:* Hog-raising ceased. *Woodruff:* Three-fourths died of cholera. *Sharp:* Hogs unusually healthy.

WEST VIRGINIA.—*Braxton:* No mast; number and condition of hogs must consequently decline. *Kanawha:* Many hogs have died of a new and peculiar disease.

KENTUCKY.—*Warren:* Half the stock-hogs sold for export, fearing a scarcity of corn. *Boyle:* Hog-cholera destructive; the bulk of the stock-hogs have been shipped to Indiana and Illinois for fattening. *Russell:* Many hogs died for lack of corn.

OHIO.—*Crawford:* Few; many killed last winter from lack of feed. *Hancock:* Hogs scarce.

TENNESSEE.—*Cannon:* Hogs sold to be fed elsewhere. *Williamson:* Driven north of the Ohio to fatten.

INDIANA.—*Clay:* Hogs, $5 per 100 pounds gross. *Hamilton:* Scarce and high priced. *Washington:* Fewer than usual, and decreased 20 per cent. in average weight. *Fayette:* Poor on account of short pasture and scarcity of corn. *Elkhart:* Stock reduced by scarcity of corn.

ILLINOIS.—*Madison:* As many raised as last year, but rapidly disposed of in view of scarce corn-crop. *Edwards:* Cholera destructive, especially to white hogs. *Macon:* Unusually scarce.

IOWA.—*Lucas:* Many hogs will be received for fattening from Kansas and Nebraska. *Montgomery:* Stock increased by shipments from the grasshopper districts of Kansas and Nebraska. *Woodbury:* Stock light.

MISSOURI.—*Caldwell:* Stock-hogs shipped away on account of lack of corn. *Moniteau:* Selling our hogs to counties that have corn.

KANSAS.—*Marshall:* Hogs generally shipped away on account of lack of corn. *Franklin:* Within ten days every salable hog has been shipped. *Nemaha:* Nearly all shipped away. *Jackson:* Almost all the hogs in the county bought and shipped; about 7,000 have been shipped. *Crawford:* Poor, and, in consequence of a short corn-crop, a great many sold and shipped.

NEBRASKA.—*Pawnee:* All sold out of the county. *Cass:* In very bad condition; all that would possibly do have been shipped to market. *Gage:* Corn being destroyed by grasshoppers, pork has to be fatted on wheat. All the hogs that could be spared have been sold and shipped east.

OHIO.—*Ross:* Hogs short

MICHIGAN.—*Cass:* Selling off hogs on account of scarce feed.

INDIANA.—*Marion:* Driven away to feed.

ILLINOIS.—*Randolph:* Will be driven away to feed.

FRUIT.

The large promise of fruit in the early spring, if not nipped in the bud, was extensively nipped, soon after the abundant bloom, by late frosts. Since then various insects and wide-spread and protracted

droughts have conspired to still farther disappoint early expectations. In Kansas and Nebraska the grasshoppers were very destructive on fruit. They not only stripped the trees and vines of leaves, leaving the fruit to wither for want of sustenance and from exposure to the scorching sun, but in many cases attacked and devoured the fruit itself.

APPLES.—The only States reporting the condition of apples above an annual average are: Rhode Island, 113; Connecticut, 106; and New Jersey, 115. The next in order are—Pennsylvania, 99; California, 98; Oregon, 97; New York, 96; South Carolina, 94; Texas, 93; Minnesota, 91. The lowest are: Vermont, 44; Virginia, 50; Mississippi, 57; Kansas, 65.

In Maine, Oxford reports three-fourths of the orchards ruined by caterpillars; Franklin, the fruit injured by insects. While Grafton, in northern New Hampshire, reports the crop almost a failure, Rockingham, in the southern part, reports the largest for several years, and the fruit excellent. In Frederick, Md., the apple-worms threaten to cut down the crop one-half; it was injured by the curculio in Clarke, Va.; by insects in Monroe, W. Va.; by codling-moth in Moultrie, Ill.; by grasshoppers in Platte, and fly-sting in Jefferson, Mo.; falling off badly in Berkshire, Mass.; Adams, Crawford, Lucas, and Van Wert, Ohio; Kalamazoo, Lenawee, and Livingston, Mich.; Crawford, Ind., and Texas, Mo.; rotting in Carroll, Ga.; Arkansas, Ark., and Granger, Tenn. In Harrison, Ohio, the pear-blight is prevalent, and extending to the apple-trees. In Sonoma, Cal., "apples are rotting on the ground by thousands of tons, the supply being so greatly in excess of the demand."

PEACHES.—Ohio returns an average condition of 119, Michigan of 109; Connecticut, 104, (in which but few peaches are produced,) is the only other State which does not fall below average. Delaware, the great peach State, is the lowest, Kent County returning 20, and Sussex only 10; Maryland, 40; Virginia, 24; North Carolina, 49; Mississippi, 47; Louisiana, 50. California returns 99; Nebraska, 97; Pennsylvania and Iowa, 95; Oregon, 94; New Jersey, 92; New York, 86. The remaining States, producing peaches, range between 85 in Illinois and 71 in Alabama and Arkansas.

In Prince William, Va., while budded peaches are an entire failure, unbudded yield "reasonably well." In Sonoma, Cal., the crop was shortened by "curled leaf." In De Kalb, Mo., the pulp was eaten from the stones by grasshoppers. In Kentucky, Lewis reports the largest crop ever raised. In Ohio, Crawford, the best crop in twenty years; Columbiana, "five times the average crop for the past twenty years;" Hancock, "trees breaking under their loads of fruit." Fountain, Ind., the best crop in ten years; Lee, Iowa, the largest crop ever known.

GRAPES.—The returns for grapes make a better show than those for apples and peaches. The New England and Middle States are above average except Rhode Island, average; Maine, 91; Vermont, 86; Massachusetts, 92; and Delaware, 98. Connecticut returns 119; New Jersey, 105. The other States making returns above an annual average are—West Virginia, 101; Kentucky, 114; Ohio, 108; Indiana, 103; Illinois, 102; California, 109. The next highest, in order are, South Carolina, Texas, and Missouri, 99; Michigan, 98; Iowa, 97. Louisiana, 73; Mississippi, 79; Kansas and Georgia, 82; North Carolina, 83; Tennessee, 86, and Wisconsin, 88; these are the only States falling below 90.

Mildew is noted in Hancock, Me., Grand Isle, Vt., Berkshire, Mass., and Luzerne, Pa.; rot in Dorchester, Md., Spottsylvania, Va., Doddridge, W. Va., and Osage, Kans. Ashland, Ohio, and Sonoma and Alameda, Cal., report the largest crop yet grown.

MAINE.—*Androscoggin:* Apples, a light crop. *Hancock:* Grapes, badly mildewed.
NEW HAMPSHIRE.—*Hillsborough:* Small apple-crop. *Carroll:* Apple-crop good.
VERMONT.—*Grand Isle:* Grapes, badly mildewed. *Rutland:* Apples, almost a failure. *Franklin:* Apples, almost a failure.
MASSACHUSETTS.—*Berkshire:* Grapes, late and mildewed.
CONNECTICUT.—*Windham:* Apples badly damaged by worms. *Litchfield:* Endangered by early frosts.
NEW YORK.—*Albany:* Apples very poor, both in quantity and quality. *Columbia:* Apples failed in the north part of the county. *Rensselaer:* Apples, few and falling off; no peaches; few plums. *Queens:* Grapes improved. *Washington:* Apples a half crop and inferior. *Warren:* Good apple and peach crops; grapes well filled.
PENNSYLVANIA.—*Tioga:* Apples and pears half average; no peaches; grapes abundant. *Washington:* Fruit crops larger, but not all of good quality. *Bucks:* Early apples an increased yield; peaches well grown and promise a full crop. *Luzerne:* Grapes wilting. *Armstrong:* Fruit injured by storms.
MARYLAND.—*Caroline:* Peaches a failure. *Dorchester:* Peaches an entire failure; some rot in grapes, reducing the yield 30 per cent. *Frederick:* Peaches rotting; grapes average. *Worcester:* Injured in quantity and quality by spring frosts. *Wicomico:* Peaches scarce.
VIRGINIA.—*Bland:* Fruit greatly damaged by late frosts in the spring. *Patrick:* No peaches. *Pittsylvania:* Grape yield immense, but injured by the rot. *Prince William:* Budded peaches an entire failure; unbudded yield reasonably. *Rappahannock:* Grapes promising. *Sussex:* Very few apples or peaches; grapes fine and thrifty. *Washington:* Apples and peaches very scarce. *Essex:* All fruit crops failed except grapes. *Henrico:* Apples and peaches scarce and poor; grapes a half crop. *Caroline:* Few apples or peaches. *Campbell:* Fruit scarce and indifferent. *Chesterfield:* Very few good apples; peaches a failure; grapes plenty and fine. *Louisa:* No fruit of any consequence. *Madison:* No peaches and few apples. *Augusta:* Apples dropping badly. *Page:* Apples and peaches almost a failure.
NORTH CAROLINA.—*Gaston:* Fruit of all kinds abundant; grapes especially fine. *Granville:* No fruit. *Lenoir:* Fruit nearly all frost killed. *Wilkes:* Peach crop a failure except on the mountains; apples inferior.
GEORGIA.—*Carroll:* Apples rotting; peaches wormy. *Laurens:* Fruit almost a failure. *Jackson:* Peaches scarce and indifferent. *Towns:* Fruit almost a failure. *Wilkes:* Fruit inferior.
FLORIDA.—*Jackson:* Apples a partial failure; peaches, average; grapes, below average.
ALABAMA.—*Calhoun:* Fruit crop generally a failure.
MISSISSIPPI.—*Holmes:* Fruit an entire failure; *Madison:* Fruit a failure.
TEXAS.—*Williamson:* A large crop of small peaches. *Marion:* Fruit crop destroyed by drought. *Kendall:* Wild fruits abundant. *Dallas:* Early peaches very fine; late, quite a failure. *Bandera:* Grapes drying up on the vines. *Karnes:* Peaches 10 per cent. below last year. *Cooke:* Peaches withering on the trees. *Medina:* Peaches small.
ARKANSAS.—*Franklin:* All kinds badly injured by drought. *Izard:* Grapes did finely; the only good fruit-crop. *Arkansas:* Apples, rotting; peaches, better. *Carroll:* No peaches.
TENNESSEE.—*Bradley:* Nearly all kinds abundant and good; grapes better than ever before. *Greene:* Apples light; peaches plenty, in some neighborhoods. *Granger:* Half crop of apples; rotting. *Cabell:* Apples a full average.
WEST VIRGINIA.—*Monroe:* Grapes superb. *Barbour:* Peaches almost a failure; apples indifferent. *Doddridge:* Peaches have failed for several years; grapes rotting, on account of late heavy rains.
KENTUCKY.—*Lewis:* Largest peach crop ever raised here. *Warren:* Fruit exceedingly fine.
OHIO.—*Harrison:* Improved by late rains. *Williams:* Fifty per cent. above average; the first season in five years in which we have had over a half crop. *Crawford:* Peaches, the best crop in twenty years. *Ashland:* Apples faulty; grapes, the best crop yet known; average rapidly increasing. *Hancock:* Peach trees breaking under their loads of fruit. *Ottawa:* Apples a half crop. *Athens:* Apples, peaches, and grapes abundant and fine. *Adams:* Late peaches withering on the trees. *Columbiana:* More peaches than ever before; five times the average of twenty years past.
MICHIGAN.—*Kalamazoo:* Apples small, wormy, and dropping. *Hillsdale:* Apples blighted; peaches plenty, but small and poor. *Berrien:* Apples and peaches shortened by drought. *Livingston:* Apples dropping; Rhode Island Greenings about the only winter apples left. *Calhoun:* Seriously injured by drought. *Wayne;* Apples below average; peaches and grapes abundant. *Shiawassee:* Apples injured by drought.
INDIANA.—*Hamilton:* Winter apples scarce and poor. *Posey:* Apples and peaches scarce and poor. *Fountain:* Peaches fine; best for ten years; apples almost a failure. *Pike:* Fruit generally poor, but grapes are plenty and good. *Whitley:* Good crop of peaches. *Franklin:* Apples and peaches ruined by drought; grapes fine.

ILLINOIS.—*Montgomery:* Winter apples almost a failure. *Sangamon:* Early apples good; later ones scarce. Concord grapes looking badly since late rains. *De Kalb:* Apples blown from the trees. *Madison:* Few bearing trees, but they are thrifty and full of fruit. *Moultrie:* Young peach trees loaded with fruit. *Carroll:* Apples and grapes injured by hail.

WISCONSIN.—*Fond du Lac:* Apples wormy and inferior; crop short.

IOWA.—*Lee:* Largest peach crop ever known; every tree full.

MISSOURI.—*Caldwell:* Apples and peaches plenty, but small. *Platte:* Fruit injured by grasshoppers. *Clinton:* Southwest winds roasted the apples under the trees, and some wild plums on the trees. *Daviess:* Apples few, but good; peaches plenty, but shriveled by drought. *De Kalb:* Peaches eaten from the stones by grasshoppers. *Moniteau:* Apples scarce; peaches a failure.

KANSAS.—*Jefferson:* Ripened prematurely by hot winds. *Franklin:* Peaches plentiful, but small; grapes considerably destroyed by grasshoppers. *Nemaha:* Fruit swept by grasshoppers. *Mitchell:* Swept by grasshoppers. *Montgomery:* Peaches and apples shortened by drought. *Allen:* Peaches and apples taken by grasshoppers; trees stripped of foliage. *Douglas:* Trees stripped of fruit and foliage. *Osage:* Apples and peaches nearly ruined by grasshoppers; grapes rotted badly. *Republic:* Peach-trees stripped of their foliage and fruit. *Jackson:* Apple and peach trees stripped of foliage, and the fruit dried up in the scorching sun. *Shawnee:* Grasshoppers stripped all fruit-trees.

NEBRASKA.—*Pawnee:* Trees swept by grasshoppers. *Otoe:* Grasshoppers have reduced the yield and quantity of apples and grapes by consuming the foliage. They are also devouring the peaches.

CALIFORNIA.—*Stanislaus:* Grapes injured by the fly fully 20 per cent. *El Dorado:* Fruit very fair; peaches smaller than usual, on account of the great number on the trees. *Sutter:* Only a few apples on the trees, but they are large and fine. *Mendocino:* Fruit-trees and vines all young; crops abundant. *Sonoma:* Peach-crop shortened by curled leaf. Grapes promise the largest crop yet raised in the State, yielding, probably, 1,500,000 gallons of wine. *Alameda:* Largest and finest grape-crop yet grown. *Butte:* Fruit crops copious, but stunted by overbearing. *Nevada:* Fruits of all kinds abundant, but late. *Amador:* Season remarkably favorable for all kinds of fruit.

OREGON.—*Clatsop:* Damaged greatly by blight; early apples mostly lost and late ones damaged. *Clackamas:* Yield declined, but quality excellent. *Grant:* Fruit-crops injured by hail-storms.

Table showing the condition of the crops, &c., on the 1st day of August, 1874

States.	Corn—Average condition August 1.	Spring wheat—Average condition August 1.	Spring rye—Average condition August 1.	Oats—Average condition August 1.	Barley—Average condition August 1.	Buckwheat—Average compared with last year.	Buckwheat—Average condition August 1.	Potatoes, (*Solanum Tuberosum*)—Average condition August 1.	Potatoes, (*Batatas edulis*), sweet—Average condition August 1.	Tobacco—Average condition August 1.	Hay—Average condition of timothy, August 1.	Hay—Product of clover compared with last year.	Hay—Average condition of clover when harvested.	Pasture—Average condition August 1.	Beans—Average condition August 1.	Cotton—Average condition August 1.	Sorghum—Average condition August 1.	Sugar-cane, (not sorghum)—Average condition August 1.	Apples—Average condition August 1.	Peaches—Average condition August 1.	Grapes—Average condition August 1.
Maine	92	101	101	102	95	104	97	99	.....	.....	94	78	99	104	97	.....	.....	.....	89	.....	89
New Hampshire	98	100	104	106	102	100	101	103	.....	.....	108	105	101	111	116	.....	.....	.....	98	92	105
Vermont	97	108	106	109	104	100	101	103	.....	.....	105	83	104	116	96	.....	.....	.....	70	.....	96
Massachusetts	101	108	97	109	101	98	102	104	.....	87	110	114	108	115	92	.....	.....	.....	114	112	103
Rhode Island	100	.....	.....	94	97	.....	.....	108	.....	.....	107	114	102	112	102	.....	.....	.....	113	57	102
Connecticut	108	95	.....	103	102	107	112	116	.....	104	112	114	113	120	103	.....	.....	.....	125	113	119
New York	94	98	100	101	102	93	98	102	100	97	106	112	102	106	98	.....	.....	.....	92	89	99
New Jersey	91	.....	.....	88	88	95	95	102	91	100	101	137	107	86	100	.....	.....	.....	107	88	104
Pennsylvania	101	101	95	84	84	98	97	88	92	83	90	91	98	91	95	.....	98	.....	93	93	105
Delaware	101	.....	.....	80	.....	.....	.....	100	.....	.....	100	113	97	107	97	.....	.....	.....	73	17	103
Maryland	96	.....	.....	68	91	102	97	75	100	72	97	112	97	92	97	.....	95	.....	76	42	103
Virginia	90	.....	.....	73	85	120	91	67	94	72	95	102	101	91	95	98	98	.....	49	32	98
North Carolina	94	.....	.....	72	.....	103	93	87	93	73	89	.....	85	90	90	95	77	.....	58	46	84
South Carolina	110	.....	.....	86	100	.....	.....	93	99	.....	102	.....	97	103	101	97	.....	.....	102	96	101
Georgia	110	.....	.....	84	100	.....	.....	85	103	92	99	98	99	100	97	94	98	105	.....	67	90
Florida	102	.....	.....	78	.....	.....	.....	100	107	83	.....	.....	.....	103	102	102	.....	105	.....	85	99
Alabama	107	.....	.....	88	.....	.....	.....	89	103	97	96	98	93	101	96	90	103	105	80	68	94
Mississippi	95	.....	.....	71	.....	103	103	66	100	85	100	130	89	100	94	89	83	102	69	58	88
Louisiana	77	.....	.....	64	.....	100	97	92	100	110	104	.....	.....	108	100	83	80	125	82	70	69
Texas	102	.....	.....	82	96	108	97	90	99	97	104	.....	111	105	95	105	90	100	96	107	104
Arkansas	85	.....	.....	66	.....	.....	.....	65	76	78	91	93	99	73	74	87	76	.....	124	121	88
Tennessee	85	.....	.....	55	.....	96	96	48	79	61	68	75	84	66	99	78	83	97	81	75	88
West Virginia	82	.....	.....	57	.....	102	97	73	87	61	63	67	82	65	81	.....	73	.....	73	58	100
Kentucky	80	.....	.....	40	96	130	85	46	80	31	51	62	70	64	61	.....	72	.....	78	68	100
Ohio	93	106	.....	76	92	94	90	84	91	66	75	74	92	80	87	.....	86	.....	76	112	108
Michigan	98	96	98	94	98	93	89	91	96	97	93	92	100	84	93	.....	.....	.....	85	93	102
Indiana	106	.....	.....	78	96	91	90	90	97	85	90	90	95	87	100	.....	.....	.....	70	82	98
Illinois	86	90	99	76	92	87	84	74	89	69	93	100	102	76	89	.....	.....	.....	74	86	100
Wisconsin	98	69	83	83	87	102	91	97	.....	95	92	85	100	81	93	.....	.....	.....	72	.....	93
Minnesota	100	84	90	86	94	104	93	79	.....	.....	98	99	97	98	93	.....	101	.....	92	.....	94
Iowa	102	99	93	93	93	96	89	93	.....	90	90	95	97	99	92	.....	93	.....	82	108	100
Missouri	74	79	100	79	100	94	87	77	87	77	93	97	99	74	87	80	81	.....	85	86	103
Kansas	70	80	91	73	73	92	84	67	86	96	84	86	93	77	83	97	83	.....	109	89	90
Nebraska	42	95	100	100	101	.....	.....	35	78	.....	97	96	100	76	47	.....	85	.....	99	99	102
California	163	105	98	105	99	.....	.....	96	93	100	102	110	99	102	97	.....	.....	.....	95	90	111
Oregon	100	96	96	100	95	102	103	97	.....	103	100	104	101	101	96	.....	.....	.....	104	100	94

Table showing the condition of the crops, &c., on the 1st day of September, 1874.

States.	Corn—Average condition September 1.	Wheat—average condition when harvested.	Rye—Average condition when harvested.	Oats—Average condition when harvested.	Barley—Average condition when harvested.	Buckwheat—Average condition September 1.	Potatoes, (*Solanum tuberosum*)—Average condition September 1.	Potatoes, (*Batatas edulis*,) sweet—Average condition September 1.	Tobacco—Average condition September 1.	Cotton—Average condition September 1.	Hay—Average condition of timothy when harvested.	Hay—Product of timothy compared with last year.	Hay—Product of hay of all kinds compared with last year.	Beans—Average condition September 1.	Sorghum—Average condition September 1.	Sugar-cane (not sorghum)—Average condition September 1.	Hops—Average compared with last year.	Hops—Average condition September 1.	Stock hogs—Number for fattening compared with last year. (Answer in hundredths as with other questions.)	Stock hogs—Average condition as to weight and size. (Answer in hundredths as with other questions.)	Wool—Weight of fleece compared with an average clip. (Answer in hundredths as with other questions.)	Apples—Average condition September 1.	Peaches—Product compared with an average.	Grapes—Average condition September 1.
Maine	79	100	100	104	102	97	101	....	....	....	101	87	83	95	....	....	122	112	98	97	98	83	....	91
New Hampshire	92	103	101	104	102	98	105	75	....	....	103	107	110	72	....	....	100	100	99	98	87	85	80	101
Vermont	82	106	99	110	102	102	105	....	....	....	102	114	110	89	....	....	80	77	91	102	100	90	....	86
Massachusetts	83	101	107	103	101	100	93	80	....	....	101	109	109	97	....	....	....	....	94	100	100	81	77	92
Rhode Island	105	105	105	100	90	111	110	....	107	....	106	100	113	100	....	....	....	....	97	95	100	113	75	100
Connecticut	110	103	106	107	104	111	110	163	107	....	107	109	120	103	....	....	....	....	98	102	100	100	104	100
New York	106	102	107	88	101	93	89	....	92	....	107	126	134	101	....	....	96	95	99	99	101	106	86	119
New Jersey	75	101	100	83	....	92	78	95	....	....	103	104	134	95	....	....	....	....	98	97	100	116	101	101
Pennsylvania	99	103	96	72	87	90	76	87	51	....	101	93	95	100	100	....	....	89	92	99	105	95	82	105
Delaware	90	100	100	71	82	95	79	95	....	....	100	110	113	100	100	....	....	....	92	100	105	95	95	102
Maryland	88	96	101	71	....	....	61	90	....	....	98	103	87	100	100	....	....	....	....	105	100	100	15	98
Virginia	95	88	94	68	....	....	73	96	62	....	97	96	106	96	100	....	....	....	....	91	89	79	40	94
North Carolina	98	92	96	76	....	....	75	93	77	....	93	96	102	100	86	....	....	....	....	89	97	100	24	83
South Carolina	109	83	76	82	100	....	100	91	86	77	100	93	98	92	....	97	....	....	....	98	96	67	49	99
Georgia	105	98	100	88	....	....	91	96	....	77	88	90	94	96	92	....	....	....	101	98	99	94	87	99
Florida	102	....	100	80	94	....	107	107	94	77	....	....	94	100	....	103	....	....	....	98	99	71	69	83
Alabama	94	101	95	81	....	....	91	90	75	81	....	....	82	83	94	96	....	....	98	95	98	90	72	95
Mississippi	89	94	90	81	....	....	90	90	83	74	....	....	86	85	95	87	....	....	98	95	97	77	71	91
Louisiana	76	91	79	60	....	....	83	84	58	62	....	....	77	67	85	100	....	....	89	87	89	57	47	79
Texas	91	79	80	92	88	62	83	94	82	65	....	105	85	82	84	83	....	....	83	83	98	69	50	73
Arkansas	53	130	90	57	....	....	40	48	70	47	....	....	72	76	62	....	....	....	102	100	96	93	97	99
Tennessee	66	104	102	49	....	99	52	77	84	52	93	96	96	93	56	65	....	....	93	86	97	67	71	93
West Virginia	89	111	101	69	....	98	72	88	78	....	95	90	93	75	82	66	....	....	90	82	89	89	69	84
Kentucky	87	112	100	47	103	88	43	85	91	....	90	65	67	62	87	....	....	98	98	76	89	82	72	101
Ohio	93	109	100	75	93	93	86	94	74	....	93	99	94	84	87	....	....	....	89	87	98	88	82	111
Michigan	76	104	98	93	95	90	84	94	....	....	92	92	94	90	92	....	....	96	91	94	98	84	121	114
Indiana	96	104	98	89	101	83	79	94	....	....	94	82	94	95	92	....	....	95	91	96	100	81	109	106
Illinois	78	98	94	87	88	79	63	90	70	62	95	93	89	94	92	....	....	104	104	94	100	76	79	98
Wisconsin	91	77	89	83	95	95	88	....	100	....	100	90	95	83	87	....	....	100	98	88	98	73	85	102
Minnesota	96	86	99	103	96	99	76	....	....	....	100	95	99	90	90	70	....	96	99	96	100	89	....	95
Iowa	92	96	96	92	95	84	75	92	100	....	101	94	99	89	94	94	....	110	105	96	101	91	....	92
Missouri	53	104	93	79	79	69	54	69	49	76	97	94	94	91	94	94	....	100	103	85	100	80	97	97
Kansas	45	89	89	61	89	39	20	53	36	66	99	92	99	66	63	58	84	....	....	83	91	69	63	93
Nebraska	37	91	93	76	91	....	24	55	32	....	86	100	107	65	85	65	....	....	....	89	71	97	62	82
California	105	104	100	103	101	96	93	100	102	125	107	....	122	100	....	....	....	114	105	77	76	101	98	97
Oregon	100	103	97	99	96	99	100	....	100	....	....	102	106	99	....	....	....	102	100	97	101	103	97	99

EXTRACTS FROM CORRESPONDENCE.

WHEAT-CULTURE.—*Bradley, Tenn.*—I sowed eleven varieties, all but three of which rusted. Fultz, Arnold's Canada Hybrid, and Burk's Golden Straw did not rust, because they ripened from nine to fourteen days earlier than our common wheats. Burk's Golden Straw was fourteen days earlier, and weighed 70 pounds to the bushel. It makes as much flour from 4.72 bushels as can be made from 5 bushels of any other variety. The Fultz yields more than any other. From one quart sowed last year, and the proceeds resowed this year, I have received 83 bushels by weight. It produced, on my farm, 36 measured bushels per acre, weighing 64 pounds per bushel.

Jersey, Ill.—If we could get wheat that would ripen about June 10, of short growth and fair heads, it would be a great thing for this section. A number of years ago we had wheat of this description, which suited the soil and climate so well that we got the reputation of being the best wheat-growing section of the State, and our wheat brought the highest price in the market. I think the seed came from France, and was first sown in Virginia, whence it was distributed over the country, being known as the May wheat. Wheat ripening after June 25 is of no use to us, as the rust always strikes it.

Walla-Walla, Wash.—Inadequate transportation allows us only 40 cents per bushel. Farmers say they cannot raise it at that price.

Morgan, Utah.—Excelsior wheat from the Department preferred to Tappahannock, Fultz, or any other kind. It stands drought, yields well, and bears a long straw.

Coffee, Tenn.—A neighbor thrashed 90 bushels of Fultz from 2 bushels sown on 3½ acres. From 3 quarts received from the Department, and distributed by me, thousands of bushels have been grown in three years.

Alexander, N. C.—Two quarts of Touzelle wheat, from the Department, sown in October and harvested in June, made two bushels of fine large grain. It will do well in this section.

Uvalde, Tex.—The Falcon wheat does not make as good a yield as our native wheat.

Fannin, Tex.—From extreme scarcity of money, many are selling their wheat to Saint Louis merchants at $1 per bushel, and will probably buy flour at high prices next spring. This is a long distance to send to mill.

Guthrie, Iowa.—On old land poorly put-in, wheat was cut short by dry weather. Fortunately we have less of such farming than usual, and I think this year will "play out" a few more slovenly theories.

Lincoln, Mo.—Touzelle wheat kept green until a few days ago. None of it matured.

Marion, Mo.—Fall-wheat crop the finest ever raised. Tappahannock from the Department preferred; grain large, more transparent and heavier than any other; weighs as much as 72 pounds per bushel.

Wood, Ohio.—The Fultz wheat you sent me two years ago has proved a perfect success. From the 12 quarts received I had 12 bushels of nice wheat. It is almost identical with the old blue-stem wheat raised in Eastern Ohio thirty-five years ago. Its superiority is seen most strikingly when threshed; it will yield from the dozen sheaves a larger amount than any other variety.

Spottsylvania, Va.—A farmer in this county has made good crops for three years by late seeding. He sows from October 25 to November 16. His land being poor, he treats it with 200 pounds of guano per acre. This year the seed yielded nineteen-fold.

CORN-CULTURE.—*Carroll, Mo.*—The necessity for thorough cultivation as well as the evil consequences of cultivating the soil too wet has never been more thoroughly demonstrated than this season. Corn in some fields looks green and promising, while in adjoining fields, broken up too wet, it is "fired" up to the shoot, and will not make even good fodder.

RICE-CROPS.—*La Fourche, La.*—The rice-crop looks well; March plantings will shortly be harvested. I am satisfied that the material regeneration of Louisiana will be effected by means of the rice-crop. It is of quick growth—only five months from seeding to harvest; it is easily cultivated; allows a large acreage per hand; yields well, and commands high prices. It is easily cultivated by white labor; and in Louisiana, unlike South Carolina, it does not cause sickness, as the land is high, formerly cultivated in sugar-cane.

POULTRY-DISEASE.—*Woodson, Kans.*—Chicken-cholera has swept the entire stock of poultry from scores of our farm-yards—turkeys, geese, ducks, and Guineas, as well as Brahmas and Shanghais. The Houdans are the only fowls exempt; they appear to be the hardiest of the new varieties, and the best layers.

TOBACCO-CULTURE.—*Hampden, Mass.*—The tobacco-crop is somewhat backward, but looks unusually healthy and strong. Considerable of Spanish leaf is being raised

in this vicinity, which gives a much finer leaf than the old Connecticut seed, and is more forward, some pieces being already topped and of heavy growth.

GRAPE-CROPS.—*Monroe, W. Va.*—A few small vineyards promise immense crops of grapes; at least 5,000 pounds per acre.

Salt Lake, Utah.—Grapes mildew before ripening; no remedy found. It is estimated, that 70 per cent. of the crop will be thus ruined.

New London, Conn.—Grape-vines are loaded with fruit, and the indications are that the yield will be nearly as large again as ever before.

DAIRY-PRODUCTS.—*Orleans, Vt.*—Our specialty is butter-making. Yield up to average with fair prices—25 to 30 cents per pound.

Washington, N. Y.—Dairying unusually prosperous and on the increase.

FRUIT-CULTURE.—*Pulaski, Ill.*—Bitter-rot alarmingly on the increase. There is good reason to believe that it spreads from tree to tree, as it certainly increases most rapidly in the vicinity of kinds first affected by it. A still more fatal malady is a form of blight known as root-rot, which destroys a large percentage of our trees, giving no outward sign until the trees are ready to be pushed over with a slight push.

AVERAGE YIELD OF WOOL.—*Sangamon, Ill.*—Five different flocks yielded as follows: No. 1, 111 head, 420 pounds; No. 2, 35 head, 150 pounds; No. 3, 22 head of high grade Cotswold yearlings, 176 pounds; No. 4, 110 head of common sheep, (corn-fed during the winter,) 660 pounds; No. 5, 74 head good merinos, 592 pounds. Total, 347 sheep, yielding 1,998 pounds of wool, and averaging 5.75 pounds per head. The average of the county is about 5 pounds.

HEAVY HAIL-STORMS.—*Hart, Ga.*—A remarkable hail-storm passed over a portion of this county August 14, covering a streak about three miles wide and fifteen or twenty miles long. In some places it completely stripped all vegetation of fruit and foliage. The hail lay on the ground three inches deep.

Grant, Oreg.—The most destructive rain and hail storm ever witnessed in this county occurred on the 9th instant. A dark cloud appeared in the southwest, while at the same time a heavy storm seemed approaching from the northeast. Carried by two opposite currents of air, they drifted together immediately over a portion of the settlements. Considerable wheat and barley was ready for the sickle, and where this was the case the grain was as completely threshed as if passed through a thresher. Only four or five farms received the full force of the hail-storm, but these suffered severely. Apples, plums, and pears were almost entirely ruined; even the new fruit-buds forming were materially injured. Had the hail-storm been general throughout the valley, not enough grain would have been left for seed and bread. As it is, there will be quite a large surplus.

EXCESSIVE RAIN-FALL.—*Chowan, N. C.*—Rained six hours July 29, filling wash-tubs a foot deep.

Morgan, Ohio.—July very hot and dry till the 11th, when it rained 1.2 inches; 12th, 0.3 inches; 21st, 0.5 inches; 24th, 0.7 inches; 26th, 0.8 inches, with a heavy storm; total, 3¼ inches.

Washington, Ill.—Six inches within twenty days.

Lewis, N. Y.—From 8 p. m. August 1 to 9 a. m. August 2, 7.8 inches.

Wasatch, Utah.—More rain than ever before.

Summit, Utah.—Heavy and frequent rain-storms to an extent never before known, causing heavy floods and much damage to hay.

Des Moines, Iowa.—Drought broken by a rain-fall of 12 inches.

PRICES OF PRODUCE.—*Macon, Ill.*—Wheat, 85 cents to $1.05; corn, 55; oats, 35: live hogs, $6 per cental.

AGRICULTURAL PROSPERITY.—*Crawford, Pa.*—No season has been so prosperous for twenty years.

Van Buren, Iowa.—I am running a small farm of 40 acres, with 20 under cultivation in fruit, nursery, vegetables, and some grain. My income varies from $1,500 to $2,000 per annum.

RYE-CULTURE.—*Osage, Kans.*—The white rye sent me by the Department last fall has produced a splendid crop of fine, well-filled grain, ripening ten days earlier than the black rye, sown beside it the same day.

Dickson, Tenn.—A neighbor raised 3½ bushels of winter rye from 4 quarts received from the Department, although the chickens had destroyed at least one-fourth of the sowing.

DROUGHT.—*Hood, Tex.*—The Brazos River in hundreds of places is as dry as the public road. The Palaxy Creek at this point is still running. Wild animals are coming long distances for water, and hogs by hundreds are seeking the Palaxy. The oldest citizens have never seen such a drought. Thousands of trees are dead, or their leaves are as dead as ordinarily in the month of December.

Independence, Ark.—The drought which had begun to affect crops in July continued till August 20. This was attended with a degree of heat never before experienced. With this heat there was an almost constant wind coming in gusts and heated so as to raise the thermometer to 105° and sometimes to 110° in the shade.

La Fayette, Ark.—No rain since May.
Bradley, Ark.—No rain since April 19.
Pulaski, Ark.—On July 8 the only rain fell since April 20; thermometer, from July 15 to August 25, ranged from 92° to 106°, with extremely hot winds; cotton is as dead as a November frost could make it; one-twentieth of the oak timber in the hills dead.
Prairie, Ark.—On the 10th August the thermometer was 108½° in the shade.
Sevier, Ark.—No rain since May.

RICE.

In reply to letters of inquiry concerning the cultivation of rice, as to its extent and increase, the Department has received several interesting statements from leading fields of production.

SOUTH CAROLINA.—Dr. J. A. R. Sparkman writes from Georgetown County, South Carolina: The tide-lands of this county, so particularly adapted to the culture of rice, border several rivers—the Waccamaw, Pee Dee, Black, and Sampit, (which unite to form Winyaw Bay,) and the two Santees, which empty into the ocean about twelve miles south of Winyaw Bay. Up to the year 1860, there were about 46,000 acres under regular cultivation, and, according to the census returns of that decade, the crop of 1859, the largest ever grown, yielded 95,127 tierces of clean marketable rice. Estimated at 600 pounds to the tierce, the product was 57,076,200 pounds, or upward of 1,200 pounds per acre. From 1860 to 1868, no records of acreage or product have been preserved. The area of cultivation for 1868 and 1869, but not the product, has been ascertained. During the four years succeeding, both product and acreage are known, as shown in the following statement, viz:

Year.	Acreage.	No. of tierces.	Pounds per acre.
1868	12,143	.....	.....
1869	16,100	.....	.....
1870	15,133	13,636	540
1871	17,439	13,500	464
1872	16,900	15,175	562
1873	17,100	13,126	460
1874	16,232	.....	.....

It will be seen that the area of cultivation in 1871 was greater than in any one of the seven years cited, and 1,207 acres in excess of the present year. Dr. Sparkman says:

The diminished product of 1871 resulted from an almost unprecedented wet harvest, by reason of continued rains when the crop was on the stubble. The rice was seriously damaged in quality, wasted in the fields, and made a very unsatisfactory turn-out in the mills. So in 1873, a heavy and protracted freshet, from August to the middle of October, proved most disastrous as to quality and quantity of rice, and the crop, considered the best grown since 1865, sold at non-remunerative prices, causing heavy disappointment and embarassment, pecuniarily, throughout our entire district, not 5 per cent. of the rice-estates paying expenses of cultivation. Most of the planters had to give liens upon the present growing crop to cover deficiencies of the last year, and the usurious rates of interest demanded by money-lenders, and by those who furnish advances in the shape of plantation-supplies, leaves so small a margin of profit for the producer that no wonder need be expressed that the area of cultivation has decreased. The additional cumulating difficulties in the management and control of labor renders it highly improbable that an improved condition of things may be looked for until the political and monetary affairs of the commonwealth assume a sounder and healthier tone.

As to the prospects of the crop for the present year, (1874,) we may now speak understandingly. The winter and spring months devoted to the preparation of the soil were unusually wet and unfavorable. A series of freshets, up to the middle of April, retarded field-work until beyond the usual time for seeding, and the preparations of three to four months had to be hurried through in as many weeks, late in the season, when imperfect drainage and the heat of spring rendered the use of machinery with

animal-power less available than usual; consequently the work was slovenly done and the crop badly set. Upwards of one-third of the 16,232 acres planted were seeded late in May, and up to the 20th of June, the usual time for sowing being from the 25th of March to the last of April. The water-grasses, started by the condition of the lands under a very low subsidence of the freshets, were well rooted when the rice was put in; and high up the rivers, where the drainage is still deficient, these grasses have never been eradicated or controlled. The almost universal report, therefore, is that the crop is "grassy"—which means unsatisfactory cultivation. Under these circumstances the growth has not been vigorous, and the product cannot possibly exceed the average of the past four years. The crop is assuredly not as promising as the growth of last year, and the harvest has not yet commenced. That portion of the crop planted in May will inevitably be seriously damaged by birds, (a terrible pest with us,) and it has yet to be seen whether the June rice will mature so as to be out of the way of harm in the contingency of an early frost. All things fairly considered, there is no ground for calculating upon anything more than an average, which has not, since 1868, reached higher than 560 pounds of clean rice to the acre, this being 55 per cent. less than the maximum of 1,207 pounds in 1859.

GEORGIA.—The following account of the rice-fields in McIntosh County, Georgia, has been received:

Year.	Acreage.	Yield per acre.	Total yield.
		Bushels.	*Bushels.*
1870	3,300	32	105,600
1871	2,460	20	49,200
1872	2,020	30	60,600
1873	2,430	31	75,361

In the year 1871 two-fifths of the entire crop was destroyed by a heavy storm and continued freshets after it was cut and stacked in the fields. In 1872 the acreage was greatly diminished by an excessive freshet of long duration, which occurred during the planting-season. In the present year nineteen hundred acres have been planted up to September. The heavy and continued freshets, together with a cold spring, retarded planting operations. Planters, however, are still at work, and there will probably be as much planted as in former years. Upon a review of the acreage planted, it is ascertained that only one-third of the land "under bank," and which was planted prior to the war, is now under cultivation. The fact that all the lands have to be kept in good order to insure the safety of the crop, and the additional facts of limited resources in money and a failing supply of labor, account for the reduced acreage in the county, and for the reduced average per acre.

LOUISIANA.—A correspondent writing from Point à la Hache, says:

Of the yield of our rice-crop in 1873, we can estimate with certainty that the yield was about 240,000 barrels of rough rice, or 120,000 bushels of hulled and polished. Notwithstanding the many difficulties planters had to contend with in the beginning, their success was very encouraging, for the crop of 1873 was in proportion doubled to that of any preceding year. The condition and prospects for this year (1874) are wholly changed on account of a wet and late season for planting. It may be estimated that the crop will reach 180,000 bushels of rough, or 90,000 bushels of rice hulled and polished.

ENTOMOLOGICAL RECORD.

By TOWNEND GLOVER, ENTOMOLOGIST.

INSECT INJURIES.—*Cotton-caterpillars* (*Anomis xylinæ*).—This insect appeared at different points in the cotton States, but their injuries were scarcely appreciable except at a very few points. In Pamlico, North Carolina, the weather was too cool for them, but generally the extreme heat was unfavorable to their propagation. In Russell, Alabama, and a few other counties, they were somewhat destructive to late crops; but elsewhere they were either of very little force, or were easily destroyed by Paris-green. The planters of Harris, Texas, are hopeful of finally exterminating them.

Cotton-lice (*Aphis* sp.,) were quite injurious to cotton in York, South Carolina.

Boll-worms (*Heliothis armigera*,) were more or less injurious to cotton in Jackson and Leon, Florida, Henry and Macon, Alabama, and Titus, Texas.

Chinch-bugs (*Micropus Rhyparochromus leucopterus*).—This insect, a former visitant of the Atlantic coast States, appears inclined to renew its old acquaintanceship in that quarter. In Orange, Virginia, it cut down a superior corn-crop to an average; in York it affected early corn, but did not molest late plantings. It was injurious to grain-crops generally in Prince William, and in Loudoun ravaged wheat and grass. In Harrison and Livingston, Kentucky, it damaged corn. In Hamilton, Ohio, it attacked oats. It was somewhat troublesome in Tuscola, Michigan, and injured corn and wheat in Sauk and Columbia, Wisconsin, but these counties were too far north for a severe visitation. It inflicted greater or less injuries in several counties of Indiana upon different crops, viz., Hamilton, Fayette, Carroll, and Washington. In Illinois its destructive sweep was still wider, embracing Menard, Sangamon, Perry, Effingham, Fayette, Jackson, Clay, Madison, Clinton, Saint Clair, Massac, White, Randolph, Cass, and Ford counties. In Missouri it is reported in Ralls, DeKalb, Callaway, Carroll, Morgan, Pettis, Johnson, Dallas, Pulaski, Benton, and Grundy. It was also injurious in Franklin, Osage, Linn, Miami, and Crawford, Kansas.

Colorado beetles (*Doryphora decem-lineata*).—This pest is making its presence painfully felt in some new localities on the Atlantic coast. In Salem, New Jersey, it injured late crops very seriously, and did considerable damage in Gloucester. In Pennsylvania they are noted in Butler, Clearfield, Franklin, Northampton, Perry, Bedford, Huntington, and Cambria; in Northumberland they abandoned the vines and were observed crawling over the pavements and streets of the villages. In Caroline, Dorchester, Frederick, Queen Anne, Cecil, and Baltimore, Maryland, they have been more or less destructive. In Prince William, Virginia, wasps have been observed destroying them very rapidly. They were quite injurious in Page. They were at work in Monroe, Preston, Hardy, and Jefferson, West Virginia; in Nicholas, Kentucky, they nearly ruined the crop. In Ohio they are noted in Perry and Washington, but no serious injury is stated. In Charlevoix, Delta, Kalamazoo, and Bay, Michigan, their presence was felt in greater or less devastations, but Paris-green was found to be a very effective antidote. In Indiana their ravages were not serious; they are reported only in Clay, Posey, and Decatur counties. In White, Cumberland, and Shelby, Illinois, they inflicted more or less injury, as also in Adams, Columbia, and Outagamie, Wisconsin, and in Sibley, Minnesota. They were injurious in Calhoun and Woodbury, Iowa, but in Howard they were extensively destroyed by parasites. They are also reported in Shelby, Missouri, and Dawson, Nebraska.

Grass army-worms (*Leucania unipuncta*,) shortened hay-crops in Richland, South Carolina, and Heard, Georgia; in Macon, Alabama, they injured late corn; in Cheatham and Dickson, Tennessee, they were destructive on grass-crops, especially German millet. They appeared in Putnam, but did little damage.

Old potato-bugs (*Cantharis* sp.,) were noted in Decatur and Orange, Indiana, and Shelby, Illinois.

Grasshoppers, (*Caloptenus* sp.)—The *C. femur-rubrum* is reported in several localities in the Middle States, and between the Alleghanies and the Mississippi, but its injuries do not appear very formidable. The *C. spretus*, the formidable grasshopper of the plains, sometimes erro

neously termed "locust," has inflicted terrible ravages in the Northwest, of which the following specimen is presented in the language of our correspondent:

Doniphan, Kansas.—The late summer and fall crops have been almost entirely destroyed by grasshoppers. The common jumping grasshopper did much damage through the early part of the season, but about the middle of August clouds of the flying ones made their appearance over the county, devouring and destroying vast quantities of vegetation. Gardens were quickly eaten up, corn-fields were stripped of leaves, and in many cases the corn was entirely eaten off; fruit-trees are left with naked branches, and in many cases the half-ripened fruit is left hanging on the trees, presenting a sickening sight of death and destruction.

In addition to the actual loss by devastation, the loss caused by discouragement will be greater. Years of patient waiting, hard work, and self-sacrifice have been destroyed in a few days, with no known remedy for protection—just as the fruits of labor were beginning to be realized, destruction came—and the question with many is, "Is it of any use to try again?"

Here is a field for the Department of Agriculture. Some method of protection or relief must be had against the destruction of this insect, or an immense tract of magnificent country will never be what it would without this curse. I am one of those who believe all such things may be controlled by some practical method; it only requires study, enterprise, and means to learn how. This county (Doniphan) could well afford to pay $100,000 for a guarantee that no grasshoppers should ever trouble it again. I have learned that vegetation highly cultivated and growing vigorously is less liable to be destroyed than when on the decline or growing feebly. Thus it is we often see a single tree in an orchard eaten even to the bark, while others of the same variety are not damaged so much; and upon examination it will be invariably found that those mostly eaten were diseased, or had their vitality in some way impaired. This thing was noticeable when the same kind of insects were here six or seven years ago. Of all fruit-trees, apple and pear trees suffer the most, while peaches, plums, and cherries suffer the least. They eat the leaves off the apples and leave most of the apples on, but the peaches they will eat the fruit and leave the foliage; but, in many instances, when vegetation is not plenty, I understand they clean all as they go, and I have seen instances of this kind. The damage to vineyards in this county is not so great. They do not seem to relish grapes, and are satisfied by eating off the stems and leaving the bunches fall to the ground. There will not be enough corn in this county to feed what stock there is in the county as it should be fed.

This plague is reported in Brown and Broome, Wisconsin; Nicollet, Sibley, Blue Earth, Faribault, Jackson, Douglas, and Wright, Minnesota; Sioux, Emmett, Harrison, Calhoun, and Woodbury, Iowa; Platte, Shelby, Daviess, and DeKalb, Missouri; Jefferson, Morris, Cherokee, Franklin, Nemaha, Mitchell, Montgomery, Allen, Smith, Bourbon, Douglas, Leavenworth, Cowley, Labette, Osage, Rice, Neosho, Graham, Cloud, Crawford, Ellsworth, Greenwood, Jackson, Butler, Miami, Linn, Pawnee, Chase, Sedgwick, and Shawnee, Kansas; Pawnee, Cass, Nuckolls, Furness, Dawson, Madison, and Gage, Nebraska. In some localities the hot winds, so destructive to vegetation, with the parched earth, addled their eggs. The wide-spread destruction which they have caused in the Northwest has not been adequately described. In many places large masses of people will probably suffer during the coming winter for the necessities of life, their crops having been swept by this remorseless enemy.

MISCELLANEOUS.—Cut-worms (*Agrotis sp.*,) injured corn and cotton in Franklin, Louisiana. Fruit-caterpillars (*Clisio campa*) infested three-fourths of the apple-orchards of Oxford, Maine, and were seen in Clay, Indiana. Coddling-moths (*Carpocapsa pomonella*,) injured apples in Moultrie, Illinois. Horn-worms (*Macrosila carolina*,) were destructive of tobacco in Halifax, Virginia, and Pope, Illinois. A species of *Aphis* destroyed buckwheat in Luzerne, Pennsylvania. Grub-worms (*Lachnosterna sp.*) infested corn-crops in Huntington, Indiana, and in Montgomery, Missouri. May beetles (*Lachnosterna sp.*) were found in corn-fields in DesMoines, Iowa. In Whiteside, Illinois, a new beetle, undescribed, was observed destroying the larvæ of the Colorado beetle, thrusting it through the body with its beak, and killing it instantly. The

tobacco fly (*Macrosila carolina*,) was injurious in Amelia, Virginia. The curculio (*Conotrachelus nenuphar*,) injured fruit-crops in Clarke, Virginia Late wheat in Piscataquis, Maine, was infested with the weevil (*Diplosis tritici*.) The "borer" was observed in the corn-fields of Wicomico, Maryland. In Lunenburgh, Virginia, an undescribed insect attacked growing corn, boring its roots, and causing it to fall.

CHEMICAL MEMORANDA.

By Wm. McMurtrie, Chemist.

Castor plant.—Mr. J. P. Lawrence, of Dallas, Texas, sent to this Department a sample of seed of castor plant, (*Ricinus communis*,) that the quantity of oil contained therein might be determined, and in order to compare their value in this particular with that of foreign varieties. We have also made similar determinations with samples of the varieties *R. minor* and *R. sanguinarius* from France. The beans from Texas seem to belong to the variety *R. sanguinarius*, and, as will be seen from the analyses given below, compare very favorably with those grown in France.

The analyses resulted as follows:

	I.	II.	III.
Moisture	4.40	4.35	4.10
Oil	46.95	47.78	45.55
Matter extracted by alcohol and water	6.35	4.20	4.40
Starch	8.875	9.81	12.50
Albuminoids	3.788	3.10	2.40
Cellulose	25.50	27.22	27.70
Inorganic matter	2.90	2.90	2.94
	98.763	99.36	99.59

No. I represents the composition of the sample of *Ricinus sanguinarius*, grown in Texas; No. II the same variety, grown in France; while No. III represents that of a sample of *Ricinus Minor* grown in France.

The following are the results of an analysis of the mineral matter contained in the beans of *Ricinus sanguinarius*:

Lime	11.31
Magnesia	7.33
Peroxide of iron	0.89
Phosphoric acid	38.657
Sulphuric acid	2.218
Chlorine	0.89
Potassa	29.52
Soda	8.75
	99.565

Artificial production of Indigo.—The discovery and application of a practical method for the artificial production of alizarin bids fair to be followed by one somewhat similar for the production of indigo. T. L. Phipson has succeeded in obtaining a purple-black product in small quantity showing considerable resemblance to the black product resulting from the unfavorable fermentation of the leaves of Indigofera. It is insoluble in water and alcohol, but is soluble in sulphuric acid, and is obtained in the following manner: Phenolcyanin is melted with sodium acetate or with nitro-naphthalin, and the product dissolved in oil of vitriol. On addition of water a sulpho-acid is precipitated, which, when treated with excess of ammonia, yields a small quantity of the purple-black product in question.

USE OF PARIS-GREEN.—Reports from different localities seem to indicate that farmers are afraid to make use of Paris-green (arsenite of copper,) for the destruction of the Colorado potato-beetle, thinking it possible that the arsenic may be taken up by the tubers in sufficient quantity to become injurious to the health of consumers; and the question has arisen, "Is there any ground for this supposition." It is true that arsenic has been taken up by cabbage in notable quantities, but the conditions were highly favorable. It is also reasonable to suppose that it would be assimilated by plants, from the fact that arsenic acid is included in the same chemical classification as phosphoric acid, the two compounds having many similar properties. But whether the former may be substituted for the latter in the economy of plant-growth is a point which has not yet, to our knowledge, been determined. We hope to settle this point by the results of an investigation lately instituted in our laboratory, which shall be published as soon as complete. In the mean time, however, we think it will be safe to make applications of Paris-green in the small quantities usually recommended, since the danger to the consumer from the small amount that can be taken up will undoubtedly be very slight.

SUGAR CONTAINED IN VINE LEAVES.—Some time ago M. Petit published the fact that grape-vine leaves contain from 20 to 30 grams of glucose and 13 to 16 grams of acid, consisting principally of tartaric acid in combination with potassa, per kilogram of leaves, and it appeared to him that the sugar present was inverted sugar alone, without admixture of cane sugar, but subsequent examination, by tests with Fehling's liquor, both before and after treatment with acid, and by means of polarimetric tests, showed that cane sugar was present also. He made two determinations of the amounts of each kind of sugar present after treatment with animal charcoal to remove the coloring matter and tannin.

In the first, one kilogram of leaves gave—

Cane sugar	9.20 grams.
Glucose	26.55 grams

In the second, operating more rapidly, he obtained—

Cane sugar	15.80 grams.
Glucose	17.49 grams.

He also found a mixture of cane sugar and glucose in the leaves of cherry and peach. One determination gave, per kilogram of leaves—

Cane sugar	33 grams.
Glucose	12 grams.

A SOLUBLE MODIFICATION OF STARCH.—After a series of experiments with this regard, M. Musculus has succeeded in obtaining a modification of starch, said to be soluble, and preserving at the same time all the other properties common to this substance. In order to obtain this product, common starch is treated with strong acid, which is subsequently removed by repeated washings with cold water. A granular body is left behind, which is insoluble in cold water, but completely soluble in water heated to 50° C., and seems to be starch not aggregated in grains or feculæ, possessing all the other properties, especially the same rotatory power.

The following table, prepared by Professor Freytag, showing the proportions of proximate organic principles, as well as the percentages of inorganic principles found in the ashes of several feeding-materials, has been published in the general catalogue of the Royal Agricultural Museum in Berlin. The table will explain itself:

One kilogram (1,000 grams) of the following materials contains in grams—

Materials.	Water.	Albumen, (crude protein.)	Starch, (non-nitrogenous extract.)	Cellulose, (crude fiber.)	Fat.	Potassic hydrate.	Sodic chloride.	Magnesia.	Lime.	Ferric oxide.	Phosphoric acid.	Sulphuric acid.	Silicic acid.	Sulphur from the organic substances, principally albuminoids.	Ammonium nitrate, 35 per cent. N, equivalent to the amount of nitrogen necessary to the formation of the albuminoids.	Alcohol which may be produced from the starch present.
I.—*Seeds:*																
1. Wheat	143	131.1	663	30	15	6.6	0.9	2.2	0.6	0.06	9.24	0.49	0.3	1.5	60	376
2. Oats	140	113.6	560	100	60	5	1.2	1.8	1	0.8	6.19	0.49	12.22	1.7	52	318
3. Peas	138	235	495	88	20	11.50	1.5	1.9	1.2	0.08	9.97	0.98	0.22	2.4	107.5	281.2
4. Rape	120	170	.....	172	500	10.48	0.6	4.6	5.2	0.01	18.48	1.59	0.4	8.2	77.2	.....
II.—*Roots:*																
5. Potatoes	750	23.6	200	14	3	6.67	0.4	0.4	0.2	0.05	2.02	0.73	0.2	0.2	10.3	113.6
6. Sugar-beets	816	8	*130	37	1	4.76	1.0	0.7	0.5	0.03	0.1	0.4	0.3	0.1	3.6	70
III.—*Straw and stalks:*																
7. Wheat-straw	141	22	299.4	480	15	5.84	2.3	1.1	2.6	0.09	2.6	1.47	28.2	1.6	10	.....
8. Oat-straw	141	25.6	369.4	400	20	11.54	3.8	1.8	3.6	0.11	2.03	1.84	21.2	1.7	11.7	.....
9. Pea-stalks	143	70	323	390	25	12.75	4.9	3.8	18.6	0.13	4.28	3.43	2.8	0.7	32	.....
10. Rape-stalks	170	35	326	415	16	11.54	7.7	2.1	10.1	0.12	3.07	3.31	2.6	1.4	16	.....
11. Potato-stalks	770	35.2	70	96	7	0.84	0.62	2.7	5.5	0.1	0.67	0.73	0.5	0.5	16.1	.....
12. Beet-leaves	897	19.5	39.5	21	5	4.64	1.92	3.3	3.6	0.08	1.46	1.72	0.6	0.8	9	.....
13. Meadow hay	144	82	393	294.6	20	30.37	8.24	3.3	7.7	0.15	4.56	4.25	9.7	1.7	37.5	.....

* Sugar.

PRODUCTION OF OZONE BY OXIDATION OF VOLATILE HYDROCARBONS.—It has for a long time been a generally accepted fact that ozone is produced in the absorption of oxygen by essential oils, and in 1863, in a paper read before the Chemical Society of London, Lawes, Gilbert, and Pugh stated their belief "that the ozone said to be observed in the vicinity of vegetation is due rather to the intense action of the oxygen of the air upon minute quantities of volatile hydrocarbons evolved by the plants, than to any action within the cells." These views seem to have been proved fallacious from the results of certain investigations embodied in a paper lately read before the same society by Mr. Charles T. Kinzett. He has experimented with a large number of the volatile hydrocarbons, and finds that the reactions heretofore believed to indicate the presence of ozone, are due merely to the presence of easily-reducible oxidized products of the hydrocarbons themselves. His experiments have been of a very thorough and exhaustive character, and the conclusions he has arrived at are doubtless correct. Experiments made in the laboratory of this Department, with the oil of *Eucalyptus globulus*, though not as extensive, have furnished results tending to confirm his conclusions.

BOTANICAL NOTES.

By DR. GEORGE VASEY.

GRASSES FOR THE SOUTH.—The question of what grasses are best adapted to the wants of the Southern States is one which is receiving deserved attention at the present time. A correspondent in Brazil has sent us some specimens of three kinds of grasses which are most esteemed for cultivation in that country, and his account of them may have some value with reference to our own country.

No. 1 is the *Eleusine Indica*. He says:

This is the grass with which the pastures are made in this province, generally on bottom lands, and it is considered that cattle and horses become as strong on this grass as when fed on corn. The Brazilians call it *graminea;* but it is not the *gramma* of Europe, and I think it is native. It runs on the ground, and takes root at the joints, and is extremely hard to eradicate on good ground. It forms a very heavy sod. The Americans say that it is the Bermuda grass, but I think it impossible. It is the most valuable grass here.

In botanical works the common or vulgar name given for this grass is dog's tail, or wire grass. It is much like the *Cynodon dactylon*, or Bermuda grass, but coarser and heavier.

No. 2 is a species of *Rottbœllia*, of which he says:

No. 2, *Gramma roxa*.—This, I think, is a species of *Rottbœllia*, of which we have several in the United States. It is not many years since it was introduced into Brazil, and it has the advantage of the *graminea* in that it grows on poorer ground and stands the frost better. It is more hardy in habit. I think it is not a native, although we have native species. A Brazilian told me that he saw this grass in England. The Brazilians have cultivated it only a few years, but it promises to be a very valuable grass.

Although we have several species of this genus in the Southern States, it has not, so far as we are aware, attracted any attention as a valuable grass.

No. 3 is a species of *Panicum*, of which our correspondent says:

Capim de Angola.—This grass, as its name imports, probably comes from Africa, and in rich, moist ground will produce on the same ground probably more vegetable matter than any other grass in the world. It grows in favorable places 30 feet in height, and

is edible for cattle. There are two kinds, which I cannot distinguish apart. This is called "*Capim de Angola*," and the other "*Capim fina*," which latter is cultivated in large pastures in the provinces of Mines Geraes, and the cattle taken to Rio are fattened on it principally. It bears burning well, whereas the *Capim de Angola* does not. It is said that the *Capim fina* does not flower. I think this would be a very valuable grass in the glades of Florida.

We have not the means of accurately determining the species of this panicum, but it is probably the *P. jumentorum*, Salz., and is probably the same as the Guinea grass, or at least it is one of the grasses so called, for unfortunately the common names given to grasses, and often to other plants, are very uncertain and unsatisfactory.

JOHNSON GRASS.—Some account was given of this grass in the monthly report for last December. We have recently received specimens from Mr. John Haralson, Selma, Ala., requesting an analysis and name. He says:

I beg to call your attention to a grass that is grown in this section, and is known here as the Johnson grass. It propagates from the seed and roots. It sends up a tall stem, very tender till after seeding-time, with long and luxuriant blades, resembling the blades of Chinese sugar-cane or chicken-corn. It puts out among the earliest vegetation in spring, and soon yields a crop for mowing. On good land it may be mown half a dozen times in the year. It succeeds very well on any kind of soil, on ridge or bottom lands, and, in the very fertile black or bottom lands, yields a rank and unsurpassed crop in abundance. Stock of all kinds love it, and, where it grows, give the preference to it over any other growth. There is a divided sentiment in reference to it in this section, where people think of growing nothing else but cotton and corn; but all are agreed, so far as I know, that for a stock-growing country it is the best grass known. Many persons here object to it because of its great tenacity of life, matting the soil with deep and spreading roots, like the cane-root, and the rapidity with which it spreads itself over a farm when once set, and the difficulty of eradication, in case one desired to subdue it for some other crop. This class of persons admit its virtues as a forage-crop, such as I have mentioned. Others, again, contend that it may be confined to one field, if it is fenced and not allowed to go to seed, and that by constant pasturage and mowing, and turning the soil over in winter, to expose the roots to frost, it may be subdued. Experiments in this direction have not reached satisfactory results as yet. It is proper to add that the name given it here is from the man who brought it to this country many years ago, whose name was Johnson, and it is said to be what is known as the Guinea grass. An examination of the books in reference to that grass, however, does not convince me of its identity, or else that very little is known by the writers on grasses of the Guinea grass. The seeds are abundant, somewhat like the chicken corn, but not so abundant on the stalk, and weigh about 35 pounds to the bushel.

I have thought that the above statements in reference to this grass might prove of interest to you.

This grass, upon investigation, proves to be *sorghum halapense*, closely related to *sorghum vulgare*, which includes the broom-corn, Guinea corn, &c. This is a perennial with strong, vigorous roots, and an abundance of long and tolerably broad leaves. Dr. Chapman, in his "Botany of the Southern States," mentions this species of sorghum as being sometimes cultivated under the name of Cuba grass. It is possible that it is also called Guinea grass, but incorrectly, as that name belongs to the Panicum before mentioned.

THE OATS-CROP IN THE SOUTH.

Reports to this Department make the impression that in most, if not all, of the Southern States the oats-crop is wholly unprofitable. The best seed sent there greatly degenerates, the complaint being that it is more subject to mildew than any other crop. And while there is found

there a red oats, for which it is claimed that it is proof against mildew, at its best it is so inferior in quality as scarcely to be entitled to the character of oats. It has been pressed upon the Department, by southern farmers, that it should be procured for distribution, in consequence of which the best sample of it was sought for and purchased from near Selma, Ala., and after subjecting it to an additional winnowing it weighed but 28 pounds to the bushel. Unless it be upon some of the highlands of North Carolina or Georgia, it is not worth while to waste time and labor upon the effort to procure a paying crop of oats in the Southern States. Although the Department has distributed among southern farmers the red oats procured at Selma, its use is not recommended.

THE SELECTION AND PLANTING OF SEED.

This Department has taken much pains to impress upon the farmers of the country the great value of a careful selection of seed. In England experiments have been made in the cultivation of wheat which have produced the most remarkable and, indeed, almost incredible results, from selections for a series of years. These experiments have been conducted by Maj. F. F. Hallett at his Manor Farm, Kemp Town. On the 4th of June, 1874, Major Hallett read a paper before the Midland Farmers' Club at Birmingham, expounding his "pedigree system" as applied to cereal crops, which created a wide and deep interest in agricultural and other circles, and has since been a prolific topic of discussion. The author of this system says:

The plan of selection which I pursue is as follows: A grain produces a plant, consisting of many ears. I plant the grains from these ears in such a manner that each ear occupies a row by itself, each of its grains occupying a hole in this row; the holes being twelve inches apart every way. At harvest, after the most careful study and comparison of the plants from all these grains, I select the finest one, which I accept as a proof that its parent grain was the best of all, under the peculiar circumstances of that season. This process is repeated annually, starting every year with the proved best grain, although the verification of this superiority is not obtained until the following harvest.

In illustration of these principles of selection, I now give the following results, due to their influence alone—as the kind of seed, the land, and the system of culture employed were precisely the same for every plant for four consecutive years; neither was any manure used, nor any artificial means of fostering the plants resorted to.

Table showing the importance of each additional generation of selection.

Year.		Length.	Containing.	No. of ears on finest stool.
		Inches.	*Grains.*	
1857	Original ear	4⅜	47	.....
1858	Finest ear	6⅞	79	10
1859	Finest ear	7¾	91	22
1860	Ears imperfect from wet season	.....	.....	39
1861	Finest ear	8¾	123	52

Thus, by means of repeated selection alone, the length of the ears has been doubled, their contents nearly trebled, and the "tillering" power of the seed increased five-fold.

The following table gives similar increased contents of ear obtained in three other varieties of wheat:

	Grains in original ear.	Grains in improved ear.
Original red, commenced 1857	45	123
Hunter's white, commenced 1861	60	124
Victoria white, commenced 1862	60	114
Golden drop, commenced 1864	32	96

It was supposed by the ancient writers that the powers of grains differed in relation to their positions in the ear. This I investigated in 1858 by planting the grains of ten ears on a plan showing their several positions in the ear. The only general result, among most conflicting ones, was that the smallest corns, those most remote from the center of growth, exhibited throughout, most unexpectedly, a vigor equal to that of the largest; and that the remarked worst grains, in one or two instances, did not by any means fall so far short of the good ones as had been expeeted. I have also made frequent trials of the comparative power of large and small, plump and thin grains—and, in the case of oats, which produce a small grain attached to a large one, trials as to their respective powers—with uniformly the same result, viz., that in good grains of the same pedigree neither mere size nor situation in the ear supplies any indication of the superior grain.

Very close observation during many years has led me to the discovery that the variations in the cereals which nature presents to us are not only hereditary but that they proceed upon a fixed principle, and from them I have educed the following law of development of cereals:

1. Every fully developed plant, whether of wheat, oats, or barley, presents an ear superior in productive power to any of the rest on that plant.
2. Every such plant contains one grain, which upon trial proves more productive than any other.
3. The best grain in a given plant is found in its best ear.
4. The superior vigor of this grain is transmissible in different degrees to its progeny.
5. By repeated careful selection the superiority is accumulated.
6. The improvement, which is at first rapid, gradually, after a long series of years, is diminished in amount, and eventually so far arrested that, practically speaking, a limit to improvement in the desired quality is reached.
7. By still continuing to select, the improvement is maintained, and practically a fixed type is the result.

Thick and thin sowing has always been a mooted point among farmers. Major Hallett's experience for a series of years proves most conclusively that thick sowing of wheat is not only wasteful, but pernicious. What is called stooling in this country, is known in England and called tillering, and he advocates the doctrine that tillered wheat is far preferable to that which grows from the germ of the seed; the advantage is twofold, saving the expense of seed and the superior quality of tillered plants. His reasoning upon the subject marks the consideration which he has given to it. He says:

We find then that a perfect plant of wheat consists of three principal parts, viz., the roots, the stems, and the ears. When a grain is planted in a proper manner, these are produced as follows: shortly after the plant appears above ground it commences to throw out new and distinct stems, upon the first appearance of each of which a corresponding root-bud is developed for its support; and while the new stems grow out flat over the surface of the soil, their respective roots assume a corresponding development beneath it.

This process, called "tillering," will continue until the season arrives for the stems to assume an upright growth, when tillering ceases, and the whole vital power of the plant is concentrated upon the production of the ears. These will be the finest it is capable of producing, unless the growth of its roots has been in any way interfered with, as, for instance, by having been crowded by those of other plants, when the size of the ears will be proportionately diminished.

This tillering is the great characteristic of all the cereals, and as an instance of the extent to which it may attain, I have known a plant of wheat grown from a single grain to cover in May a circle 5 feet 6 inches in diameter, measuring from the extremities of the opposite leaves as they lay tillered out flat upon the surface.

At the Exeter meeting of the British Association I exhibited three plants of wheat, barley, and oats, each from a single grain, with the following:

	Stems.
Wheat	94
Barley	110
Oats	87

The fact then at once stands out that a plant of wheat requires space for full development, and, therefore, time to fill that space. It is evident that the proper space and time to allow to each grain are those which, while sufficient for full development, leave no ground unoccupied at harvest. Such proper time must, it is plain, be much earlier than when wheat is planted so thickly that "tillering" cannot take place.

In reference to this point of time of sowing we must consider the rate of wheat growth during the different months, and the best measure we can have of this is the time which it takes to come up. Thus wheat sown—

1st of September comes up in	7 days.
In a mild autumn—1st of October comes up in	14 days.
1st of November comes up in	21 days.
1st of December comes up in	28 days.

And assuming, as we may fairly do, this as the relative rate of wheat growth when it is up, then wheat which is up on the 1st of September makes in the first fifteen days of that month a growth equal to that of the whole month of October; in the next ten days a growth equal to that of the whole of November; and in the last five days of September a growth equal to that of the first twenty days of December; or in other words, wheat up on the 1st September, compared with that up on the 1st October, has exactly a double autumn for growth before the winter sets in; and, indeed, the case is in reality much stronger than this, for if winter were to set in early there would be for wheat sown at the end of October little or no autumn growth above ground.

The importance of every day (especially the earlier days) of September growth cannot be overrated.

It must be borne in mind always that it is a matter for the maturest study and judgment to correctly apportion the quantity of seed to the time of sowing and to all the existing surrounding circumstances.

A large quantity of seed sown early is just as much opposed to reason as the late sowing of a small quantity of seed, and, indeed, more so, for the first must become winter-proud and cannot succeed, while the season may be of such a character as to enable the last to do so.

As a general basis I would suggest on a large scale the drilling of wheat as follows: End of August to 10th September, 2 to 3 gallons per acre; for each week later, to the end of September, an additional gallon per acre.

When opportunity is afforded for observing the unimpeded growth of the cereals there is seen to exist a striking variation in their mode of growth and powers of production.

The superiority of some individuals over others is so marked in various ways as to lead irresistibly to the inference that it must be hereditary, and the desire to prove this brings us to the consideration of the selection of seed.

In reference to the animals of the farm, whether horses, cattle, sheep, or pigs, the importance of a good pedigree is fully recognized, as also with regard to some of our agricultural plants; for if a farmer wants a good cabbage, mangold, turnip, or carrot, he selects the seed from a good parent, but the moment he deals with the cereals he altogether ignores the great principle of like producing like.

Upon this great principle, running throughout all nature, I base my system of selection.

The results of selection in many agricultural plants, such as the parsnip, cabbage, turnip, potato, hop, &c., are well known; and there has recently been published in France a report showing how my principle of selection, applied to the beet cultivated for sugar, has resulted in an increase of 5 per cent. of sugar.

In the case of the vine, too, I may cite an instance:

Some eight years since I communicated to an Italian friend my views as to the selection of the vines. These he carried back with him to his relative in Piedmont, and two years ago he informed me that the produce in wine from his relative's estate had been trebled by adopting the principle of selection.

No one can go into a hop garden in this country without being struck with the contrast between some of the poles covered with hops, and other poles having scarcely any at all upon them, the season of course having been the same for all.

The science of horticulture, too, presents innumerable proofs of, and, indeed, may be said to owe its very existence to, the principle of plant selection.

Now that some, at least, of the variations of cereals are heritable is obvious from the existence of the numerous distinct varieties.

The transmission of minute characteristics is evidenced in the variety of wheat known as "Grace's White." There is in every grain a kind of indentation across the back, as if when still soft a thread had been tied tightly round it; this mark is more or less distinct, but never entirely absent. It even has a practical bearing upon its market value, the grains occupying as much room in the measure as if no such indentation existed.

In fact close observation shows that in the cereals, as throughout nature, no two plants or grains are precisely alike in productive power, and hence that of any two or greater number of grains or plants one is always superior to all the others, although that superiority can be discovered only by actual trial.

This superiority may consist in various particular characteristics, as power to withstand frost; prolificness; size and character of ear; size, form, and quality, and weight of grain; length or stiffness of straw; powers of tillering; rapidity of growth; and many others.

Now, while our farmers and planters will not, each for himself, pursue this system for a series of years, of procuring "pedigree seed," one or more in a vicinity may do it, for the benefit of others and his own profit. The manifestly successful results of Major Hallett's planting has so convinced the people of England, that his "pedigree wheat," to the extent of all he can raise, is now sold at a price three times as great as any other wheat. This Department has procured some of this wheat, and will have its merits fairly tested in this country.

Such is the interest taken in this subject in England that the Midland Farmers' Club, at Birmingham, appointed a deputation of its most distinguished members to visit the farm of Major Hallett for the purpose of making a personal inspection of his growing crops, his "pedigree barley" and oats as well as his wheat. This examination was made on the 10th July, 1874, and the report of this deputation to their society was highly satisfactory. It seems to have been established beyond any reasonable doubt that a "pedigree," in its capacity to transmit powers of production, is as certain as that of a horse for swiftness of speed, or that of a cow for her quantity and quality of milk. While all farmers are choice in their selection of a profitable breeding stock, it is only because the results are palpable to the eye; those of the careful selection and care of seed are not so immediately seen, but they are even more certain and profitable in their consequences.

The bushel of ordinary wheat contains 700,000 grains and upwards; and taking 2 bushels per acre as the seed sown, we have, speaking roughly, 1½ millions of grains per acre put into the ground.

I have counted at harvest the number of ears upon a quarter of an acre of wheat (drilled 20th November, with 1½ bushels per acre, and which proved an exceptionally heavy crop of nearly 7 quarters per acre,) and I found the number of ears per acre to be 934,120, or not so many ears as the grains sown. Here it is clear from the number of grains sown that either the natural powers of tillering could not have been exercised, or that the greater part of the seed must have been sown uselessly. Doubtless some of the grains did produce more than one ear, but this only makes the case still worse for the remainder.

Not only was the number of ears below that of the grain sown, but each ear was but the stunted survivor of a struggle for existence.

Indeed, it has been stated by Jethro Tull, that if a square yard of thickly-sown wheat be counted in the spring, and the supposed number of ears then recorded, it would be found that 90 per cent. of them would be missing at harvest. Beyond all question, in thickly-sown wheat a very large proportion of what appear as stems in the spring die away before harvest, and have thus grown not only uselessly, but in the struggle for existence have starved and stunted those which ultimately came to ears.

In ordinary crops the number of ears produced per acre being taken as about one million, and the crop as 34 bushels, we have at 700,000 grains to the bushel, 23,800,000 grains per acre, or an average per ear of only 23 to 24 grains; and if more than one million ears per acre be claimed, it must be at the expense of their contents.

Five pints of wheat per acre planted in September, 12 inches by 12 inches, gave 1,001,880 ears per acre, or 67,760 ears in excess of those produced on the other side of the hedge from 6 pecks, or more than twenty-one times the seed.

Again, 5 pints planted 12 inches by 12 inches October 17, gave 953,320 ears per

acre; and planted similarly October 4,* 936,762 per acre; while 1 bushel planted October 15, gave only 812,160.

Two plants of 24 ears each gave 1,911 and 1,878 grains, or 79 per ear. 20 ears per foot, at 48 grains only per ear, would produce 11 quarters per acre.

All the conditions of time and space being fulfilled, we can obtain from a single parent grain as many ears as are ordinarily obtained from twenty grains, with this most important advantage, viz: these ears being produced from plants which have attained (or nearly so) perfect development of their growth, contain more than double the common number of grains, and their contents may be largely increased by the continued annual selection of the most vigorous parent grains.

These small quantities may in the following manner be drilled on a large scale without additional expense:

My principal object is to insure perfect singleness and regularity of plant with uniformity of depth. The two latter may be attained by the drill, as may the former also by adopting the following plan: The seed-cups ordinarily used in drilling wheat are so large that they deliver bunches of grains, consisting of six or seven, which fall together within a very small area, from which a less produce will be obtained than if it had been occupied by a single grain. The additional grains are thus not only wasted, but are positively injurious. By using seed-cups, however, which are only sufficiently large to contain one grain at a time, a stream of single grains is delivered, and the desired object, viz., the depositing of grains singly, at once attained. The intervals in the rows will not be exactly uniform, but they will be sufficiently so for all practical purposes. The width of these intervals will of course depend upon the velocity with which the seed-barrel revolves, which can be regulated at pleasure by a proper arrangement of the cog-wheels which drive it. By drilling thus we obtain the advantage of the "broad-cast" system also, equal distribution, as we can have the rows as close together, and the grains as thin in the rows as we please.

The crop should be hoed as soon and as frequently as practicable, with Garrett's horse-hoe. If the seed has been sown early this should be done in the autumn, as it causes the plants to tiller and occupy the whole ground before the winter sets in. It is essential to the success of thin sowing to keep the land perfectly free from weeds during the growth of the crop.

We will now consider a few facts as to what may be produced under my system.

And first I would draw attention to the effect upon the crop of the mere increased size of the grain produced.

A bushel of pedigree wheat, (original red,) produced from single grains, planted 12 by 12, contains about 460,000 grains, while a bushel of ordinary wheat contains 700,000 grains and upwards. Therefore, in two crops consisting of precisely the same number of grains, the crop from the thin seeding would be upwards of 70 bushels against 46 bushels, or 9 quarters against 6 quarters, per acre.

Again, a bushel of pedigree barley, produced from grains planted singly 12 inches by 12 inches, contains 390,400 grains, while a bushel of ordinary barley contains upwards of 550,000, or in two crops of equal *numbers* of grains the one would be 55 bushels, the other 39, or 7 quarters against 5 quarters per acre.

Thus in the increased size alone of the grains produced we obtain an increase of crop of from 40 to 50 per cent.

The following are some of the advantages which, apart from the increase of crop obtained, would attend the adoption of the August and early September sowing of a proper quantity of seed:

1. *The saving of seed.*—Although this is no main object of my plan, but only, as it were, a necessity arising out of it, this single one of its features is in itself of national importance, resulting in a saving of *nearly one million quarters* of wheat alone.

2. *Power of withstanding frost and insects.*—The roots of wheat sown in August become by the middle of October so developed as to render it quite safe from lifting by the frost, and attacks of wire-worm, &c., would be almost entirely unknown.

3. *Forwarding of the work of the farm.*—If the wheat were practically all drilled by

* Rows (3 outside)

Planted.		Missed.								Gave ears.						Per foot.
87	—	5	=	82	–	–	–	–	–	2184	–	–	–	–	–	26½
74	—	6	=	68	–	–	–	–	–	1832	–	–	–	–	–	27
14	—	0	=	14	–	–	–	–	–	420	–	–	–	–	–	30
7 inside rows.									–							
12	—	1	=	11	–	–	–	–	–	282	–	–	–	–	–	25 1-7
17	—	0	=	17	–	–	–	–	–	395	–	–	–	–	–	23¼
14	—	0	=	14	–	–	–	–	–	322	–	–	–	–	–	23
14	—	0	=	14	–	–	–	–	–	276	–	–	–	–	–	20
14	—	0	=	14	–	–	–	–	–	303	–	–	–	–	–	21¼
14	—	2	=	12	–	–	–	–	–	317	–	–	–	–	–	26½
14	—	1	=	13	–	–	–	–	–	304	–	–	–	–	–	23
99				95						2199						23 1-7

2199, (22¼ including misses,) or 966,792 per acre.

the 10th September, the whole autumn would be at the farmer's disposal for clearing the land and getting ready for the autumn and very early spring sowing of barley and oats, beans, and peas; the root-crops would not require to be hurriedly removed; and, in fact, the farmer would be always well ahead of all his work throughout the year.

4. The crop would never become "winter proud" even in the mildest seasons, or laid by heavy summer rains.

5. The harvest would be from two to three weeks earlier. Thus, notwithstanding the cold spring, I had (May 26) August-sown wheat just bursting into ear, and August-sown barley, which was quite out in ear and in full bloom more than a week before. The harvest being over at least a fortnight sooner would be of immense advantage in the cleaning of the land.

6. Whereas seasons are frequently most unfavorable to late-sown cereals, they are scarcely ever so to early-sown ones.

There is no real ground whatever for assuming our present amount of produce per acre to be final and unalterable. One hundred years ago the produce per acre probably was, and certainly might with equal reason have been, deemed so; and yet it has now been nearly doubled.

We have seen that the present average contents of our ears of wheat must be from 20 to 30. Were it grown as I propose, the average contents of the ears would be at the very least from 40 to 60—far more probably from 60 to 90; for under such a system so small an ear as one of 40 grains is quite the exception. And this increase of the contents of the ears would be obtained without any diminution of their number; in other words, the crop would thus at least be doubled. This is no mere speculation, as I have had 27 quarters of wheat grown upon 3 acres of land from 1 bushel of seed upon the whole 3 acres; and I have grown over a whole field 82 bushels per acre of barley, weighing 57 pounds per bushel, from only one peck of seed per acre. And this was only an approximation to the system which I advocate before you to-day.

It may very fairly be asked me: Is your crop of wheat at present growing sown in August and the early days of September; and if not, why not? I answer at once that it is not so, I am sorry to say, although a good deal of it was got in at the end of September.

I have been foolish enough to try and combine the old practice with the new, and to hope by an approximation to August-sowing practically to reap all its advantages. The success which has attended this earlier sowing has been most remarkable, as the crops at this moment growing upon my poor land will abundantly show; but such approximation is at the most but a half-way house to the greatest possible improvement, as may be seen by comparing these crops with those I have which were sown in August.

I have become, by these gradual steps, convinced of the absolute necessity of abandoning entirely our ordinary practice of sowing wheat after mangolds, carrots, cabbage, rape, &c., and have arranged to have very nearly, if not quite, all my wheat drilled this year in August and the early days of September; and my crops are and will be at all times open to the inspection of every member of this club.

There may be seen upon my farm now, wheat sown in single grains, in August, one foot apart each way; and some sown early in September, 15 inches apart each way; also about 30 acres drilled at end of September and the beginning of October with 5½ gallons per acre. Barley sown in August, single grains, 18 inches apart each way, side by side with some planted April 1st, 9 inches apart each way; also a field of barley drilled with 2 gallons per acre, and 48 acres drilled with 3¾ gallons per acre.

I counted (May 26th) the stems upon a plant from a single grain of wheat, of barley, and of white Canadian oats, all sown in August, as follows:

A plant of wheat	84 stems.
A plant of barley	87 stems.
A plant of oats	36 stems.

I will now show how the 3½ millions of acres of wheat sown in England could be drilled in August and the early days of September.

Taking the crops of England as given in the agricultural returns for 1872, at the end of this paper:

First, there are 585,000 acres of bare fallow. Next, there are 496,000 acres of beans, and 353,000 acres of pease. And these beans and pease should be sown in the autumn and come sooner to harvest. Then there are 420,000 acres of vetches, lucerne, &c. And of clover and grasses under rotation, 2,822,000 acres. In all 4,676,000, out of which to obtain 3,337,000 acres of wheat.

To the extent of about one-half of the clover and grasses under rotation, whether for hay or not, it would doubtless be necessary to sacrifice all the growth at present obtained after about midsummer or the middle of July.

In the Standard of December 10, 1873, in an account of the annual dinner of the Central Farmers' Club, an honorable agricultural member is thus reported: "He was astonished, therefore, to hear so painstaking, careful, and thoughtful a statesman as

the Earl of Derby saying that it was his deliberate opinion that the land of England might be made to double its present produce, and still more that Lord Leicester should back up that opinion."

Now, I do not hesitate to say that with regard to corn the noble lords were strictly right, and their honorable critic egregiously in the wrong.

By the adoption of my system this could be done, and the whole of the breadstuffs which we purchase each year at the enormous sum of forty millions sterling might be produced upon our own land at home, enriching the proprietors and cultivators of England, and annually adding these forty millions to the wealth of the entire nation.

CROP EXPERIMENTS.

FULTZ WHEAT.—A correspondent writing from Lauderdale County, Alabama, gives the following as his experience with one quart of this wheat received from the Department in 1872:

This is my third crop from the one quart of wheat received. The amount of land employed was four and one-half acres, from which I have just threshed ninety bushels of splendid wheat, or twenty bushels to the acre. It was sown in a field by the side of eleven acres of Reed-straw wheat, which yielded nine bushels to the acre. The season was very unfavorable on account of heavy and continued rains throughout March and April. About the 1st of May the Fultz was badly scalded, or blighted; in fact looked as if it would not make half a crop. With a favorable season, I am confident it would have made thirty or more bushels per acre. I think it will prove the best wheat yet introduced into this part of the South. Our average yield of wheat for the ast five years has been about ten bushels.

Hon. W. E. Niblack, of Indiana, incloses to the Department the statement of a farmer in his district in which it appears that a sowing of one quart of Fultz, November 6, 1871, yielded thirty pounds. This product was sown in September, 1872, and yielded ten bushels. In turn, this was sown in September, 1873, and produced 300 bushels. Two acres, sown after tobacco, yielded 104 bushels, or 50 bushels per acre. The entire crop was grown on clay soil.

The Frederick County (Md.) Examiner, of recent date, records a yield of Fultz wheat in that county of 42 bushels per acre on 42¼ acres, "a result which, as far as we have heard, has nowhere been equaled."

The results for three years on the experimental farm of the University of Wisconsin are given, as follows:

Sown.	Rate per acre.	Harvested.	Yield.
September 18, 1871	1½ bushel	July 12	33 bushels.
September 10, 1872	1¼ bushel	July 11	20 bushels.
September 5, 1873	1¾ bushel	July 1	34 bushels, 55 pounds.

The yield in each case is given by weight, 60 pounds to the bushel; the grain has weighed 60 to 62 pounds to the measured bushel. The crop of 1872–'73 was on new and partly low ground. The ice in early spring killed a part of the crop. This year (1874) a lot on old ground, following oats, and on side-hill facing south, yielded 29 bushels 26½ pounds per acre.

Fultz wheat was first distributed by the Department in 1871. A historical note of its origin was given in the Annual Report for that year.

JENNINGS WHEAT.—Dr. H. M. Price, of Fluvanna County, Virginia, reports the results of a comparison between the Jennings wheat (re-

ceived from this Department) and two varieties, the Clawson and Tappahannock. He sowed the Jennings October 9, on one-twelfth of an acre, which before had been planted in cabbage. Soil, a dry, stiff clay, which was fallowed and harrowed, and the seed turned under with a shovel-plow. No fertilizer used. On the same amount of land equal quantities of the Clawson and Tappahannock, respectively, were sown.

The following is a tabulated statement of results:

	Weight of straw.	Weight of grain.	Yield per acre.	When ripe.
	Pounds.	*Pounds.*	*Bushels.*	
Jennings	485	165	33	June 16.
Clawson	461	183	36 3-5	June 20.
Tappahannock	401	122	24 2-5	June 14.

The straw was weighed June 30.

BRUNSWICK CABBAGE AND THE NOCERA ONION.—While the Department aims at all times to introduce superior varieties of vegetable-seeds, very great importance attaches to careful and methodical cultivation. It is clearly the duty, as it is the interest, of recipients of varieties of pronounced excellence to care for them with scrupulous regard. In a statement of Mr. Cook, of Baldwin County, Georgia, recently made to this Department, there is evidence of such regard worthy of especial commendation. His experiment was confined to the Brunswick cabbage and the extra early Nocera onion. He says that it is a very prevalent notion among the farmers in that part of Georgia that cabbage cannot be grown successfully, believing which the majority continue to grow calewort, and look upon an eight-pound cabbage, if home-grown, (referring to his own success,) as something almost wonderful. "Let them procure seed of the Brunswick, and raise strong, healthy plants by thinning out liberally; make their land rich, and plow deep. Set out up to the first leaf, (very important,) and cultivate carefully, and they will soon discover that they have been laboring under a mistake," is the advice and prediction of Mr. Cook.

Mr. C.'s method with his cabbage was as follows:

Planted the seed in a cold frame February 10; transplanted to soil of medium fertility March 20. The land had been deeply plowed and manured a month before; raw cotton-seed applied broadcast before plowing, at the rate of 100 bushels to the acre; when the plants were ready, the soil was freshened by a shovel-plow, dispensing with the harrow. The plants were set out 3 by 3 feet apart, during a light rain. Two days after two tablespoonfuls of superphosphate was applied to each plant by sprinkling on the surface and slightly raking in. The cultivation consisted of two plowings and three hoeings. Four applications of land-plaster were made, following as many rains. The first head was cut May 26, and nine-tenths of the product were marketed by July 10, the heads ranging from 4 to 8 pounds in weight. Comparatively few plants failed to head; but for the cabbage-worm, 99 per cent. would have headed. These insects were unusually destructive, and would not yield to plaster alone. In brief, Mr. C. says that, after having tried all the leading varieties of cabbage except the Early Wyman, he is decidedly in favor of the Brunswick.

In regard to the Nocera onion his praise is unqualified. Seeds for "sets" and for large onions were planted February 16, and on June 15 both were harvested. The average diameter of the onions was three inches, and the sets were very fine, and yielded well.

JUTE IN LOUISIANA.

Mr. Emile Lefranc, president of the Southern Ramie Association, at New Orleans, as is known, has been for a considerable period very actively engaged in the culture of jute, as well as in perfecting a decorticating machine for cleaning and preparing the fiber for the market and for manufacturing. His experiments, which have been conducted on an adequate scale, have confirmed the impression that the cultivation of this valuable fibrous plant will eventually become a very profitable industry, especially in the southern portion of this country.

In a recent letter to the Commissioner, Mr. Lefranc states that, in spite of the difficulties and drawbacks which he has had to encounter the present season from diluvial rains, overflows, and droughts, he will have 150 acres of jute to harvest, if the weather be not too unfavorable, in September. Some of the fields he describes as splendid, growing 8 feet high, and as thick as wheat.

Mr. Lefranc's jute-cleaning machine, a description of which, with illustrative drawings, may be found in the forthcoming Annual Report of the Department, for 1873, has been improved, as he states, by unceasing researches and numerous applications, from which the best have been selected. It is said to work well, and to produce over a ton of clean fiber per day, with four attendants only. It cleans jute, ramie, and okra radically and without waste, and it is believed that hemp and flax may be as well treated by it. Mr. Lefranc says: "We treat jute without leaving butts or refuse, and we can treat hemp and flax without having the loss of tow." If this be so, the machine will effect an important reform in our textile trade, and exert an influential agency in developing our hemp and flax production.

Mr. Lefranc mentions a curious fact in connection with his experience in the culture of jute. A piece of land that produced jute-seed last year is now in full growth of jute again, though none was planted there this year. The seed which dropped last year was sufficient for a new crop.

AGRICULTURE IN INDIA.

C. Samba Siva, secretary of the Native Association of Mayaveram, Madras, furnishes this Department with a very interesting account of the state of agriculture in the rice-producing district of Tanjore, and of improvements about to be set on foot. He says:

There has been formed an association in Mayaveram, a town in the district of Tanjore, in the Madras Presidency, the chief object of which is the introduction of improvements in the art of agriculture. Mayaveram is situated on the banks of the Cavery, and from its position it will be seen that it occupies the center of the delta of the Cavery, which has, not inaptly, been called "the Eden of Southern India." The population almost entirely subsists by agriculture; and here, as in many other parts of this large country, the art, though practiced perhaps from the very origin of civilized life, remains in the same state. The cultivator depends entirely on the fertility of the soil, which is every year renewed by the Cavery. The government has done much to economize the supply of water, and a large extent of land has been brought

under cultivation since the commencement of the British administration in th country. The agriculturist enjoyed many advantages here, but the times are changed so much that it will not do for him to remain in ignorance. The labor-market now presents difficulties which did not exist before. Taxation has increased. The increase in the price of articles of comsumption is great. In the midst of these altered circumstances, the agriculturist begins to see that only by improving his art can he cope with the difficulties.

A brief sketch of the present state of agriculture in this district may not be out of place. The Cavery begins to flow in June, and continues to supply the fields with water till October. Cultivation commences soon after the southwest monsoon sets in, and ends when the northeastern monsoon ceases to bring down rain. Rice only is cultivated. In some places two crops are raised, but only one crop is raised in the greater part of the delta. The great body of land-owners possess no capital, and the few who save do not invest their savings in the improvement of their lands. The consequence is, the agriculture of the district is left in the hands of a laboring class called "Pura Kudi," who generally own a pair or two of plowing cattle, and till, on an average, not more than six or seven acres. The understanding between the Pura Kudi and the landlord is by no means satisfactory, and the art of tilling is therefore neglected, each being satisfied with what little can be scraped, and neither willing to employ skill nor capital. There is a total want of improvement in the implements made use of by the farmer, and the condition of the cattle is truly deplorable. These, added to the subsiding of the river floods at irregular times, render agriculture very unsafe for the small and moneyless farmers in many places.

This is the chief cause why only one crop is raised in the greater part of this district. The raising of water two feet higher is never thought of, and and whole tracts are left waste, though, during the season of cultivation, water is never two feet below the surface. Many an improvement might be made in the art of agriculture that is at present carried on in the district, and the association has this in view. A model farm will be established this year, with a view to show practically what improvements can be effected in the art. Experiments in the use of manure and in the culture of various grains and plants will be undertaken, and the results carefully recorded. In its endeavors the association has received much help and encouragement from the superintendent of the Government Experimental Farm at Madras.

FACTS FROM OFFICIAL SOURCES.

THE PHYLLOXERA IN FRANCE.—The Prefect of the Department of the Rhone has published a decree directing the mayor of each Commune within his jurisdiction, upon the indication of the presence of the phylloxera, to proceed at once to determine the limits of each local district infected by the insect. Every vine affected and all the roots within 5 meters are to be dug up and burned. This decisive measure has not escaped sharp criticism. To save the vine lands of the Rhone from destruction by this pest, it is now proposed to secure winter irrigation by a grand canal connected with that river. M. Dumont, *Ingénieur en chef des ponts et des chaussées*, has developed, before a governmental commission, a scheme for the construction of such a canal, within four years, at a cost of 102,000,000 francs. This, it is supposed, will rescue from destruction over 60,000 acres of vine lands, yielding products worth 200,000,000 francs per annum and taxes amounting to 20,000,000 francs.

THE GULF REGION AS A FIELD FOR EMIGRATION.—The American Patron, a journal published at Finley, Ohio, having addressed a series of inquiries to intelligent parties residing in different parts of the Gulf Coast, in regard to the eligibility of that section as a field for northern immigration, received an official reply from Citronelle Council No. 7, Order of Progressive Farmers, Mobile County, Alabama, to the following effect:

1. The salubrity of the Gulf Coast, east of Louisiana, is fully equal to that of any section of the Union. Miasmatic diseases prevail during certain seasons on the river-bottoms, but of a less malignant type than is found in similar localities of the North. The yellow fever is expected in the cities about every five years, but it never troubles the rural districts. The whole region is almost totally exempt from Asiatic cholera.

2. The climate of the South is destitute of the extremes of both heat and cold found in the North. A summer temperature of 90° F. is unusual, while the Gulf breezes render the air very delightful.

3. Most of the crops grown in the North can be successfully grown on the coast, with a great variety of tropical and semi-tropical products, giving scope for an exceedingly varied culture. An acre of corn there represents a greater money value than at the North.

4. Markets are fair and constantly improving. An increased production would call forth increased facilities for transportation. The early spring products are shipped North at a period when they find no competition.

5. Southern pine lands are worth more per acre than the best uplands of the Northwest. In the South an immense area of wild lands of the best quality, belonging to the Government, are open to homestead settlers. For improved lands $4 per acre is a high average price. The peculiar advantage of southern products enables the judicious cultivator to realize a much larger value per acre than at the North.

6. The surface of the country is generally high, but rolling and well watered. Abundance of water-power is found in the streams. The swamp area, contrary to general impression, is very small.

7. Educational facilities are very good in the cities, and becoming more extended in the country. Church privileges are very good.

8. People from the North who come to engage in regular business and to identify themselves with the country will be kindly received.

ABANDONMENT OF HOMESTEAD-CLAIMS.—Many homestead-settlers on the public lands in Western Kansas are unwisely leaving their farms and allowing their claims to go by default. The reason is, discouragement growing out of poor results of poor and unintelligent farming. Many of them make it a secondary business.

ABANDONMENT OF SHEEP-RAISING IN THE SOUTH.—At various points in the South our correspondents speak of the destruction of sheep by that chronic nuisance, worthless dogs, as increasing to such an extent that sheep-raising has been measurably abandoned. Our correspondent in Elizabeth City, Va., especially deplores this destruction, as that section of the country can hardly be excelled either in the weight of fleece or quality of mutton produced.

SORGHUM AND MAPLE-SUGAR.—In Monroe County, Ohio, in 1873, 437 acres of sorghum were planted. The product embraced 29,466 gallons of sirup and 15 pounds of sugar. The maple-sugar industry yielded 3,495 pounds of sugar and 226 gallons of sirup.

IMPROVED FARMING PROSPECTS.—*Albany, Wyoming:* The Daily Independent, of Laramie City, states that the soil of Wyoming is developing greater productive power as the farmers become acquainted with its peculiarities. Timothy and blue-grass can be successfully raised. Many new stock-farms have been started, and thousands of cattle have been brought from Colorado and Montana. The Laramie Plains afford a constant supply of grass, but in some other regions graziers have had annually to shift their pastures.

Robeson, N. C.—For the first time our farmers have felt fully rewarded for their labors. The only fear now is that market-products will not command remunerative prices.

PLUNDERING FROM GOVERNMENT.—Our correspondent in Escambia County, Alabama, represents that in that section agricultural improvement is greatly hindered by the fact that Government timber is suffered to be cut and carried off to market without limit or restraint. He thinks that if an agent were appointed to see that the provisions of the homestead-law were enforced, and no one permitted to cut timber until he had a legal right to, one good result would be that "the people would go to work, cultivate farms, and improve homesteads."

REFLUX EMIGRATION.—Our correspondent in Ellsworth, Kansas, reports: "Many farmers are disheartened, and leaving for the older States. Potato-beetles, chinch-bugs, grasshoppers, drought, and fire will turn the tide of emigration eastward."

NEW PEACH.—Our correspondent in Jasper County, Missouri, sends us an account of a new peach, which the Horticultural Society in that county has named "Amsden's June." It is a seedling, planted in 1858 by Mr. L. C. Amsden. The tree first fruited in 1872, bearing nine peaches, "which began to ripen the last of June," and the last specimen of which was "the perfection of ripeness" on the 7th of July. The original tree, as well as thirty or forty budded from it, fruited again this season. It is claimed that it is hardy, productive, and entirely free from the "curled leaf," which has been very destructive to the peach-crop in that locality; that the fruit is very juicy, melting, and well-flavored, and that it is fully four weeks earlier than Hale's Early.

SUCCESSFUL PEAR-CULTURE.—L. & A. B. Rathbone, of Oakfield, Genesee County, New York, have furnished for this Department the following facts relative to their experiment in cultivating pears: In the spring of 1864 they set out 4,000 dwarf pear-trees, 3,000 Duchess, 500 L. Bonne de Jersey, 400 Beurre de Anjou, and 100 Vicar of Wakefield. The trees are 10 feet apart, each way, occupying 10 acres. The soil is "a gravelly loam, mixed with sand, with clay subsoil." For five years the trees were severely pruned. The orchard has received medium cultivation, but no fertilizer, except that in June, 1873, it was dressed with about 80 bushels per acre of slaked lime and unleached wood-ashes. Delivered in barrels at Batavia, and beginning with 1868, the several amounts received for annual sales for six successive years were as follows, and in the order named: $100, $230, $110, $1,338, $2,250, $5,530—total, $9,558. It will be noticed that in the last-named year, 1873, the gross sales reached $553 per acre.

BEET-SUGAR IN ENGLAND.—The culture of the sugar-beet is enlarging in England, not only as a forage-plant but also for the production of sugar. The commissioners of the revenue in 1873 report the establishment of a distillery for the production of alcoholic liquor from beet-juice, and that it consumes the produce of 730 acres of beets raised in the neighborhood. The sugar-mill at Lavenham absorbs the product of 450 to 570 acres, averaging about 14 tons per acre. The sugar-product of the country for 1872 was 5,890 quintals; for 1873, 7,560 quintals, of 112 pounds each. These aggregates represent mostly raw sugars, but the refining process is being introduced more extensively.

STEAM FARM-MACHINERY IN SCOTLAND.—The labor difficulties of the United Kingdom have compelled farmers to rely to a greater extent

than formerly upon machinery. To secure the benefit of the latest improvements, a large capital is necessary, and to accumulate this farmers are forming associations. An association of this character in Scotland, according to a late official report, during 1873, worked some 16,000 acres with steam and other elaborate machinery, performing all heavy operations at a greatly diminished cost to the farmer, and paying a dividend of 5 per cent. upon the capital invested. The large amount of capital necessary to such improvements is, then, no bar to their use, as farmers can either combine for the common ownership and working of elaborate and high-priced machinery, or they can employ capitalists who make such operations their specialty, and who will plow the ground or gather the crops for a specific remuneration.

FRENCH ARMY-HORSES.—*Le Journal d'Agriculture Pratique* states that the French army, of all arms, now requires, annually, 81,000 horses, of which the cavalry alone absorbs 70,000. The projected reorganization of the latter branch of the service will raise its annual demand to 90,000, and that of the whole peace establishment to over 100,000. On a war-footing this annual consumption of horses would be raised to 250,000. The census of 1866 returned 3,313,000 horses of all ages and grades. During the late Prussian war 419,000 were lost or rendered unserviceable. With the subsequent increase, the present total can scarcely be equal to 3,000,000, of which not over ten per cent., or 300,000, between the ages of four and fourteen, may be regarded as available for military service. This leaves but a small margin of effective horses for the wants of the community. To guard against the difficulties which threaten the nation in case of war, the government has, by a late law, reorganized the "*administration of studs*," and re-established the "school of studs" at Pin. Commencing with 1875, the number of stallions maintained at public expense is to be augmented 200 each year until the total number shall have reached 2,500. These stallions are to be chosen from the best blood of the different races. An increasing schedule of prizes is to be annually awarded for the production of stallions, mares, colts, and fillies. The "*jumenterie*" of Pompadour is to be re-established, and to be constituted of 60 mares, exclusively devoted to the production of horses of Arab and Anglo-Arab blood. The most scientific and skillful practitioners are to be employed in this effort to enlarge the studs of France, and to guard against the exigencies of a state of war with its extraordinary demand for horses.

CHARBON.—Our regular correspondent in East Feliciana, La., states that 500 plow-animals have died of charbon in that parish, not including oxen. This loss has severely crippled the working of the cotton-crop. A correspondent residing in New Orleans states that the charbon destroyed live-stock by wholesale in Point Coupee and Concordia Parishes, Louisiana. In some localities it seriously crippled the working of the crops. In Avoyelles Parish it destroyed 50 per cent. of the mules and 25 per cent. of horses, besides 15 per cent. of cattle. It was quite virulent also in Hardin County, Texas.

ENGLISH ALMONDS.—Our chief correspondent in Williamson County, Texas, raised this year 230 pounds of English almonds upon six grafted trees, five years old.

MARKET-PRICES OF FARM-PRODUCTS.

The following quotations represent, as nearly as practicable, the state of the market at the beginning of each month.

Articles.	August.	September.
NEW YORK.		
Flour, superfine ..... per barrel..	$4 40 to $5 00	$4 45 to $5 00
extra State ..... do.....	5 25 to 6 10	5 15 to 5 75
superfine western ..... do.....	4 40 to 5 00	4 45 to 4 95
extra to choice western ..... do.....	5 15 to 11 00	5 05 to 9 00
common to fair southern extras. do.....	5 50 to 6 15	5 25 to 6 10
good to choice southern ..... do.....	6 20 to 11 00	6 15 to 9 00
Wheat, No. 1 spring ..... per bushel..	1 30 to 1 36	1 20 to 1 23½
No. 2 spring ..... do.....	1 23 to 1 30	1 13 to 1 20
winter, red, western ..... do.....	1 27 to 1 30	1 08 to 1 27
winter, amber, western ..... do.....	1 30 to 1 32	1 22 to 1 27
winter, white, western ..... do.....	1 35 to 1 55	1 25 to 1 45
Rye ..... do.....	96 to 1 05	—— to ——
Barley ..... do.....	—— to ——	1 90 to ——
Corn ..... do.....	77 to 88	82 to 83½
Oats ..... do.....	75 to 1 00	47 to 56
Hay, first quality ..... per ton...	22 00 to 27 00	19 00 to 21 00
second quality ..... do.....	18 00 to 19 00	12 00 to 15 00
Beef, mess ..... per barrel..	—— to ——	—— to ——
extra mess ..... do.....	—— to ——	—— to ——
Pork, mess ..... per barrel..	22 50 to ——	22 75 to 22 87½
extra prime ..... do.....	20 00 to ——	22 00 to ——
prime mess ..... do.....	19 50 to ——	—— to ——
Lard ..... per pound..	13⅛ to 13¾	14¾ to 15½
Butter, western ..... do.....	17 to 30	22 to 35
State dairy ..... do.....	24 to 32	27 to 28
Cheese, State factory ..... do.....	10½ to 13¼	11¾ to 14
western factory ..... do.....	9 to 12	10 to 12½
Cotton, ordinary to good ordinary.... do.....	13⅝ to 15½	13½ to 15⅝
low middling to good middli'g. do.....	15⅜ to 18 5/16	15½ to 18½
Sugar, fair to good refining ..... do.....	7⅞ to 8 3/16	8¼ to 8⅜
prime refining ..... do.....	8¼ to 8 5/16	8½ to ——
Tobacco, lugs ..... do.....	6½ to 9½	6½ to 9½
common to medium leaf..... do.....	9 to 12½	9 to 11½
Wool, American XXX and picklock.. do.....	55 to 60	53 to 65
American XX and X ..... do.....	47 to 56	47 to 55
American, combing ..... do.....	51 to 65	51 to 65
pulled ..... do.....	33 to 53	33 to 53
California, spring-clip ..... do.....	23 to 35	23 to 37
California, fall-clip ..... do.....	17 to 25	17 to 27
PHILADELPHIA.		
Flour, superfine ..... per barrel..	3 50 to 4 25	3 50 to 3 62½
Pennsylvania extra ..... do.....	4 50 to 5 75	—— to ——
Pennsylvania family ..... do.....	6 00 to 7 75	6 00 to 6 25
western extra ..... do.....	4 50 to 5 75	—— to ——
western family and fancy..... do.....	6 00 to 9 25	5 75 to 7 25
Wheat, winter, red ..... per bushel..	1 28 to 1 32	1 18 to 1 23
winter, amber ..... do.....	1 34 to 1 38	1 27 to 1 29
winter, white ..... do.....	1 33 to 1 50	1 35 to 1 38
spring ..... do.....	1 20 to 1 23	1 13 to ——
Rye ..... do.....	91 to 93	88 to 92
Barley ..... do.....	Nominal.	—— to ——
Corn ..... do.....	82 to 84	85 to 87
Oats ..... do.....	55 to 80	49 to 55

Market-prices of farm-products—Continued.

Articles.	August.	September.
PHILADELPHIA—Continued.		
Hay, fresh, baled ..... per ton..	$20 00 to $22 00	$20 00 to $22 00
common to fair shipping ..... do.....	19 00 to 21 00	19 00 to 21 00
Beef, western mess ..... per barrel..	8 00 to 10 00	8 00 to 10 00
extra mess ..... do.....	9 00 to 12 00	9 00 to 12 00
Warthman's city family ..... do.....	17 00 to ———	17 00 to ———
Pork, mess ..... do.....	23 75 to 24 00	24 00 to 24 50
prime mess ..... do.....	23 00 to ———	23 00 to ———
prime ..... do.....	22 00 to ———	22 00 to ———
Lard ..... per pound..	13¾ to 16½	14⅜ to 15¼
Butter, choice Middle State ..... do.....	30 to 33	33 to 34
choice western ..... do.....	24 to 28	26 to 30
Cheese, New York factory ..... do.....	12½ to 13½	13½ to 14½
Ohio factory ..... do.....	12 to 12½	12⅝ to 13
Sugar, fair to good refining ..... do.....	7⅞ to 8⅛	8⅜ to 8⅝
Cotton, ordinary to good ordinary .... do.....	13¾ to 16	13¼ to 16¼
low middling to good middling. do.....	16⅝ to 18⅜	16⅜ to 18½
Wool, Ohio X and XX ..... do.....	53 to 57½	——— to 55
Ohio combing ..... do.....	58 to 63	60 to 64
pulled ..... do.....	45 to 52	27 to 49
unwashed, cloth'g and comb'g .do.....	23 to 42	42 to 45
BALTIMORE.		
Flour, superfine ..... per barrel..	4 25 to 4 75	4 25 to 4 75
extra ..... do.....	5 00 to 6 00	4 75 to 6 25
family and fancy ..... do.....	6 00 to 8 00	6 00 to 8 00
Wheat, white ..... per bushel..	1 25 to 1 45	1 10 to 1 25
amber ..... do.....	1 42 to 1 45	1 30 to 1 35
red ..... do.....	1 20 to 1 30	1 10 to 1 28
Rye ..... do.....	80 to 85	85 to 90
Corn, white, southern ..... do.....	90 to 92	93 to 94
yellow, southern ..... do.....	83 to 84	81 to 82
Oats, southern ..... do.....	60 to 65	52 to 55
western ..... do.....	60 to 63	51 to 55
Hay, Pennsylvania ..... per ton...	20 00 to 21 00	18 00 to 19 00
Maryland ..... do.....	22 00 to 23 00	20 00 to 22 00
western ..... do.....	——— to ———	——— to ———
Beef, Baltimore mess ..... per barrel..	——— to ———	——— to ———
extra ..... do.....	——— to ———	——— to ———
Pork, mess ..... do.....	24 00 to 25 00	24 00 to ———
Lard ..... per pound..	14 to ———	15 to ———
Butter, western ..... do.....	24 to 25	23 to 28
eastern ..... do.....	——— to ———	——— to ———
Cheese, eastern cutting ..... do.....	14 to ———	14½ to 15
western cutting ..... do.....	12½ to 13	13 to 13¼
Sugar, fair to good refining ..... do.....	7¾ to 8	7⅞ to 8¼
Tobacco, lugs ..... do.....	——— to ———	——— to ———
common to medium, leaf .... do.....	——— to ———	——— to ———
Cotton, ordinary to good ordinary ..... do.....	14⅜ to 15¼	14⅜ to 15¼
low middling to middling ..... do.....	15¼ to 16¾	15⅜ to 16¾
Wool, fleece-washed ..... do.....	——— to ———	——— to ———
tub-washed ..... do.....	——— to ———	——— to ———
unwashed ..... do.....	——— to ———	——— to ———
pulled ..... do.....	——— to ———	——— to ———
CINCINNATI.		
Flour, superfine ..... per barrel..	4 25 to 4 50	3 75 to 4 25
extra ..... do.....	——— to ———	——— to ———
family and fancy ..... do.....	5 25 to 6 75	5 15 to 6 50

Market-prices of farm-products—Continued.

Articles.	August.	September.
CINCINNATI—Continued.		
Wheat, red winter ..... per bushel..	$1 04 to $1 07	$1 03 to ———
Hill winter ..... do.....	1 08 to 1 12	1 05 to $1 10
white winter ..... do.....	1 18 to 1 23	1 10 to 1 12
Rye ..... do.....	90 to 92	82 to 83
Barley ..... do.....	——— to ———	1 00 to 1 05
Corn ..... do.....	66 to 71	70 to 75
Oats ..... do.....	48 to 50	46 to 48
Hay, baled, No. 1 ..... per ton....	20 00 to 25 00	20 00 to 22 00
lower grades ..... do.....	15 00 to 17 00	16 00 to 19 00
Beef, plate ..... per barrel..	14 00 to 15 00	13 50 to 15 00
Pork, mess ..... do.....	23 75 to 24 00	23 00 to ———
Lard ..... per pound..	14 to 14½	16½ to ———
Butter, choice ..... do.....	23 to 25	25 to 28
prime ..... do.....	19 to 20	23 to 25
Cheese, factory ..... do.....	12 to 12½	12½ to 13
pine-apple ..... do.....	——— to ———	——— to ———
Sugar, New Orleans, fair to good..... do.....	——— to ———	——— to ———
prime to choice.. do.....	9¾ to 10	9¾ to 10
Tobacco, lugs ..... do.....	15 to 22½	15 to 22½
leaf ..... do.....	22½ to 37¼	22½ to 37¼
Cotton, ordinary to good ordinary.... do.....	13 to 14⅝	12¾ to 14⅝
low middl'g to good middl'g.. do.....	15½ to 17½	15¼ to 17⅛
Wool, fleece-washed ..... do.....	42 to 45	42 to 45
tub-washed ..... do.....	45 to 48	45 to 50
unwashed, clothing ..... do.....	30 to 31	30 to 31
unwashed, combing ..... do.....	35 to 38	35 to 38
pulled ..... do.....	32 to 35	32 to 35
CHICAGO.		
Flour, white winter extras, fair to good ..... per barrel..	5 75 to 6 50	5 50 to 6 50
white winter extras, choice.... do.....	6 75 to 7 75	6 50 to 7 50
red winter extras ..... do.....	5 50 to 6 50	4 75 to 6 50
medium to choice spring extras.. do.....	5 00 to 5 75	5 12½ to 5 50
spring, superfine ..... do.....	3 50 to 4 75	3 50 to 4 50
Wheat, No. 1 spring ..... per bushel..	1 08 to ———	97 to ———
No. 2 spring ..... do.....	——— to ———	93⅛ to 93¾
No. 3 spring ..... do.....	——— to 97	90 to ———
Corn, No. 2 ..... do.....	63 to 90	66⅜ to 67⅓
Oats, No. 2 ..... do.....	43 to 71	40 to 41½
Barley, No. 2 ..... do.....	1 03 to 1 05	93 to ———
Rye, No. 2 ..... do.....	73 to 76	75 to 75¼
Hay, timothy ..... per ton....	17 50 to 18 00	11 50 to 15 50
prairie ..... do.....	5 00 to 10 00	8 00 to 10 00
Beef, mess ..... per barrel..	11 25 to 11 50	11 25 to 11 50
extra mess ..... do.....	12 25 to 12 50	12 25 to 12 50
Pork, mess ..... do.....	23 25 to 23 30	23 00 to ———
prime mess ..... do.....	——— to ———	——— to ———
extra prime ..... do.....	——— to ———	——— to ———
Lard ..... per pound..	12⅛ to 12¼	15 to 12½
Butter, choice to fancy ..... do.....	25 to 28	28 to 33
medium to good ..... do.....	20 to 23	22 to 25
Cheese, New York factory ..... do.....	11 to 12	12½ to 13
Ohio and western factory .... do.....	10 to 11	11½ to 12½
Sugar, New Orleans, prime to choice.. do.....	——— to ———	——— to ———
common to fair.. do.....	——— to ———	——— to ———
Wool, tub-washed ..... do.....	45 to 53	45 to 55
fleece-washed ..... do.....	38 to 44	40 to 47
unwashed ..... do.....	27 to 33	27 to 34
pulled ..... do.....	——— to ———	——— to ———

Market-prices of farm-products—Continued.

Articles.	August.	September.
SAINT LOUIS.		
Flour, winter ..... per barrel..	$3 25 to $7 50	$3 75 to $7 00
Wheat, red winter ..... per bushel..	97 to 1 10	95 to 1 15
white winter ..... do.....	1 00 to 1 10	1 15 to 1 18
spring ..... do.....	——— to ———	70 to 90
Corn ..... do.....	55 to 78	77 to 80
Rye ..... do.....	——— to 80	80 to 90
Oats ..... do.....	42 to 55	42½ to 44½
Barley ..... do.....	——— to ———	91½ to 1 15
Hay, timothy ..... per ton....	17 00 to 20 00	17 50 to 20 00
Beef, family ..... per barrel..	13 00 to 14 50	——— to ———
extra mess ..... do.....	——— to ———	14 00 to 16 00
Lard ..... per pound..	13 to 14	13¾ to 16¼
Butter, choice ..... do.....	26 to 28	27 to 32
inferior grades ..... do.....	15 to 25	20 to 25
Cheese, Ohio and N. W. factory ..... do.....	12 to 12½	12½ to 13
New York factory ..... do.....	12½ to 13	13 to 13½
Sugar, New Orleans, common to fair.. do.....	——— to ———	——— to ———
prime to choice .do.....	——— to ———	——— to ———
Cotton, ordinary to good ordinary.... do.....	12½ to 14½	12½ to 14½
low middling to good middl'g.do.....	15¼ to 17½	15¼ to 17½
Wool, tub-washed ..... do.....	49 to 53	49 to 54
unwashed, combing ..... do.....	32 to 39	32 to 39
fleece-washed ..... do.....	42 to 52	42 to 52
NEW ORLEANS.		
Flour, superfine ..... per barrel..	——— to 4 50	——— to 4 00
extra ..... do.....	——— to 4 75	4 25 to 5 25
choice to fancy ..... do.....	7 75 to 8 50	6 25 to 7 00
Corn, white ..... per bushel..	90 to 92½	90 to 92
yellow ..... do.....	77 to 78	——— to 80
Oats ..... do.....	75 to 80	56 to 60
Hay, choice ..... per ton....	26 50 to 27 00	——— to 26 00
prime ..... do.....	25 00 to 25 50	23 00 to 24 00
Beef, Texas ..... per barrel..	12 00 to 12 25	12 00 to 12 25
Philadelphia ..... do.....	——— to ———	——— to ———
Fulton Market ..... do.....	11 25 to 11 50	11 25 to 11 50
western ..... do.....	15 00 to 16 00	15 00 to 16 00
Pork, mess ..... do.....	25 50 to ———	——— to 24 50
Lard ..... per pound..	——— to 15	——— to 15¾
Butter, choice southern ..... do.....	——— to ———	28 to 30
western ..... do.....	20 to 25	20 to 22
Cheese, choice western factory ..... do.....	——— to 14	——— to 13
New York cream ..... do.....	——— to 19	——— to 19
Sugar, fair to fully fair ..... do.....	9⅜ to 9½	9⅜ to 9½
prime to strictly prime ..... do.....	——— to ———	9¾ to 9¾
clarified, white and yellow.... do.....	——— to ———	10¾ to 11¾
Tobacco, lugs ..... do.....	7½ to 9	7½ to 9
low leaf to medium leaf .... do.....	9½ to 11½	9½ to 12
Cotton, ordinary to good ordinary .... do.....	11⅝ to 14¼	11⅜ to 14⅝
low middling to good middling.do.....	15⅜ to 16¾	16 to 17
Wool, lake ..... do.....	——— to 34	——— to 34
SAN FRANCISCO.		
Flour, superfine ..... per barrel..	4 00 to 4 50	4 25 to 4 50
extra ..... do.....	——— to 4 75	——— to 4 75
family and fancy ..... do.....	5 00 to 6 00	5 00 to 5 25
Wheat, California ..... per bushel..	1 50 to 1 65	1 45 to 1 60
Oregon ..... do.....	1 50 to 1 60	1 50 to 1 60
Barley ..... do.....	1 12½ to 1 40	1 05 to 1 75
Oats ..... do.....	1 40 to 1 75	1 45 to 1 65

Market-prices of farm-products—Continued.

Articles.	August.	September.
SAN FRANCISCO—Continued.		
Corn, white ..... per bushel..	——— to ———	$1 80 to $1 85
yellow ..... do.....	——— to ———	1 80 to 1 85
Hay, State ..... per ton..	$11 00 to $14 50	8 00 to 13 50
Beef, mess ..... per barrel..	8 50 to 10 00	8 50 to 10 00
family mess ..... per half barrel..	6 50 to 8 00	6 50 to 8 00
Pork, mess ..... per barrel..	19 00 to 20 00	22 00 to 24 00
prime mess ..... do.....	17 50 to 18 00	17 50 to 18 50
Lard ..... per pound..	13 to 14	15 to 16
Butter, overland ..... do.....	20 to 22	20 to 25
California ..... do.....	25 to 35	25 to 40
Oregon ..... do.....	18 to 20	18 to 20
Cheese ..... do.....	12½ to 16	12½ to 16
Wool, native ..... do.....	17 to 19	17 to 19
California ..... do.....	25 to 32	25 to 32
Oregon ..... do.....	25 to 33	25 to 32

LIVE-STOCK MARKETS.

NEW YORK.		
Cattle, extra beeves ..... per cental..	$13 00 to ———	$13 00 to $13 25
good to prime ..... do.....	——— to $12 75	12 00 to 12 75
common to fair ..... do.....	10 50 to ———	10 00 to 11 75
milch-cows ..... per head..	40 00 to 80 00	45 00 to 85 00
calves ..... per cental..	4 00 to 9 50	4 00 to 10 00
Sheep, good to extra ..... do.....	——— to 6 50	4 00 to 7 50
Swine, common to fair ..... do.....	——— to ———	7 00 to ———
PHILADELPHIA.		
Cattle, beeves ..... per cental..	5 50 to 7 50	——— to ———
Sheep ..... do.....	4 50 to 5 75	——— to ———
Swine, corn-fed ..... do.....	10 00 to 10 75	——— to ———
BALTIMORE.		
Cattle, best beeves ..... per cental..	5 50 to 6 62	5 25 to 6 87
first quality ..... do.....	4 37 to 5 50	4 00 to 5 25
medium ..... do.....	3 75 to 4 37	3 25 to 4 00
ordinary ..... do.....	3 25 to 3 75	3 00 to 3 25
general average of market .... do.....	——— to 4 50	——— to 4 25
most of the sales between .... do.....	4 00 to 5 25	3 75 to 5 00
Sheep ..... do.....	2 00 to 2 50	2 00 to 3 50
Swine, corn-fed ..... do.....	9 50 to 10 00	10 00 to 10 25
SAINT LOUIS.		
Cattle, choice native steers, 1,300 to 1,600 pounds ..... per cental..	5 75 to 6 00	5 50 to 5 75
prime second class, 1,150 to 1,400 pounds ..... do.....	4 75 to 5 00	4 75 to 5 25
good third-grades, 1,050 to 1,300 pounds ..... do.....	3 85 to 4 00	3 85 to 4 00
fair butchers', 1,000 to 1,200 pounds ..... do.....	3 25 to 3 75	3 25 to 3 75
inferior native grades ..... do.....	2 00 to 2 50	2 25 to 2 50
Texans and Cherokees, corn-fattened ..... do.....	3 12½ to 3 62	3 00 to 3 50
inferior ..... do.....	2 12½ to 2 37	1 90 to 2 20
Sheep ..... do.....	2 50 to 6 00	2 00 to 4 25
Swine ..... do.....	5 50 to 7 25	4 00 to 7 50

Live-stock markets—Continued.

Articles.	August.	September.
NEW ORLEANS.		
Cattle, Texas beeves, choice ..... per head..	——— to $40 00	——— to $40 00
first quality ..... do....	$30 00 to 35 00	$30 00 to 35 00
second quality ..... do....	20 00 to 25 00	20 00 to 25 00
western beeves ..... per cental..	——— to ———	——— to ———
milch-cows ..... per head..	35 00 to 100 00	35 00 to 100 00
calves ..... do....	8 00 to 9 00	7 00 to 9 00
Sheep, first quality ..... do....	4 00 to 5 00	4 00 to 5 00
second quality ..... do....	3 00 to 4 00	3 00 to 4 00
Swine ..... per cental..	5 00 to 8 00	5 00 to 8 00
CINCINNATI.		
Cattle, good to prime butchers' steers ..... per cental..	——— to ———	——— to ———
common to good medium ..... do.....	2 00 to 5 00	2 00 to 5 50
milch-cows ..... per head..	25 00 to 40 00	25 00 to 50 00
Sheep, common ..... do.....	3 00 to ———	3 25 to ———
good to prime butchers' ..... do.....	4 25 to ———	4 25 to ———
Swine, shipping grades ..... do.....	6 40 to 6 95	6 00 to 6 75
good to prime butchers' ..... do.....	7 10 to 7 25	7 00 to 7 80
CHICAGO.		
Cattle, extra-graded steers, 1,400 to 1,500 pounds each ... per cental..	6 10 to 6 50	6 40 to 7 00
choice beeves, 3 to 5 years old, 1,250 to 1,450 pounds ... do.....	5 75 to 6 00	6 00 to 6 25
good beeves, 1,200 to 1,300 pounds ..... do.....	5 25 to 5 50	5 25 to 5 75
medium grades, 1,150 to 1,300 pounds ..... do.....	4 75 to 5 00	4 25 to 5 00
lower grades, natives ..... do.....	2 00 to 4 50	1 75 to 4 00
Texans, choice corn-fed ..... do.....	5 00 to 5 25	4 50 to 5 25
Texans, north-wintered ..... do.....	3 00 to 4 25	2 50 to 4 00
Texans, through droves ..... do.....	2 00 to 4 25	1 50 to 3 75
milch-cows ..... per head..	——— to ———	——— to ———
veal calves ..... per cental..	——— to ———	3 50 to 5 50
Sheep, poor to medium ..... do.....	3 00 to 4 00	3 00 to 4 00
good to choice ..... do.....	4 25 to 5 00	4 50 to 4 75
Swine, good to extra ..... do.....	6 35 to 6 65	7 00 to 8 40
inferior to medium ..... do.....	6 70 to 6 85	6 70 to 6 90

FOREIGN MARKETS.

WHEAT.—The season for breadstuffs in Europe is in marked contrast to the last two seasons. In England, August closed with a long stretch of beautiful weather, which put the year's gathering entirely out of harm's way, the bulk having been harvested in the finest condition. This change in the condition of production could not fail to produce a rapid fall in prices. The markets for new wheat suddenly came down from 5*s.* to 10*s.* per quarter. In several county markets the best white did not command more than 50*s.* This movement, however, has probably reached its minimum, and may be expected to be followed by some reaction. The complete exhaustion of stocks in England will necessitate a steady demand for at least a portion of our surplus. France

exhibits the same plenteous promise of home production. The weather has been charming, and just suited to the growing crops. The best white wheat at Paris ranges from 40*s.* to 50*s.* per 480 pounds. American spring-wheat has been offered in London at 42*s.* 6*d.* per 480 pounds, including cost and freight. The other countries of Europe have likewise been generally favored with good growing and harvest weather. Declining markets are reported in Holland, Belgium, Germany, and Hungary. The new wheat at Hamburg weighed from 61 to 64 pounds per bushel. It had not, at the close of August, arrived in large quantities, yet its promise was such that old American wheat, though offered at a decline of 4*s.* or 5*s.* per quarter, found few buyers. Reports from Odessa showed a large crop in Southern Russia, while samples received indicated good quality. A great decline of prices was the result. In Algiers holders were regretting their refusal to accept former prices.

The sales of English wheat during the last week in August amounted to 28,087 quarters, at 57*s.* 2*d.*, against 23,079 quarters, at 60*s.* 3*d.* during the corresponding week of 1873. The London averages were 53*s.* 4*d.* on 4,039 quarters. The imports into the United Kingdom for the previous week were 781,939 cwt. In Mark Lane, Essex, and Kent, new white was quoted at 47*s.* to 52*s.* per quarter; ditto, new red, 44*s.* to 48*s.*; Norfolk, Lincolnshire, and Yorkshire, 41*s.* to 48*s.*; Dantzic, mixed, 53*s.* to 62*s.*; Königsberg, 50*s.* to 63*s.*; Rostock, 50*s.* to 52*s.*; Silesian, red, 49*s.* to 51*s.*; ditto, white, 54*s.* to 58*s.*; Pomerania, Mecklenberg, and Uckermark, red, 50*s.* to 51*s.*; Ghirka, 43*s.* to 44*s.*; Russian, hard, 43*s.* to 47*s.*; Saxonska, 40*s.* to 50*s.*; Danish and Holstein, red, 50*s.* to 52*s.*; American, red, 46*s.* to 49*s.*; Chilian, white, 55*s.*; Californian, 56*s.*; Australian, 54*s.* to 57*s.* In Liverpool, American red winter, 9*s.* 3*d.* to 10*s.* per cental; No. 1 spring, 9*s.* 3*d.* to 9*s.* 6*d.*; No. 2 spring, 8*s.* 9*d.* to 9*s.*; Bombay, 9*s.* 6*d.* to 10*s.* 6*d.*; Egyptian, 8*s.* to 10*s.*; Californian, 10*s.* 1*d.* to 10*s.* 3*d.*; Oregon, 11*s.* 3*d.* to 11*s.* 6*d.*; Chilian, 9*s.* 6*d.* to 9*s.* 9*d.*; Australian, 11*s.* 3*d.* to 11*s.* 6*d.*

Flour.—At the opening of the last week in August there was a moderate supply of country flour in London and a very small stock of foreign, and the trade in both was by no means brisk during the week. In Paris the market ruled low, but with evident signs of a reaction, the closing prices being 35*s.* 3*d.* to 37*s.* 11*d.* per 280 pounds. In Mark Lane the best town households brought 43*s.* to 47*s.* per sack of 280 pounds; best country households, 40*s.* to 42*s.*; Norfolk and Suffolk, 38*s.* to 39*s.*; American, 25*s.* to 30*s.* per barrel. In Liverpool, English and Irish superfines brought 38*s.* to 40*s.* 3*d.* per 280 pounds; extra, 43*s.* to 47*s.*; Trieste, 55*s.* to 65*s.*; Spanish, 41*s.* 3*d.* to 43*s.*; American, western and extra State, 23*s.* to 25*s.* per barrel; Baltimore and Philadelphia, 23*s.* to 27*s.*; Ohio and extra, 25*s.* to 27*s.*; Canadian, 26*s.* 6*d.* to 28*s.*

Maize.—Toward the close of August a great falling off in the arrivals of maize was noted in the Mark Lane Express; prices for white, 36*s.* to 38*s.* per quarter; yellow, 32*s.* to 34*s.* In Liverpool there was but limited inquiry, and a fall of 6*d.* per quarter; American, mixed, closed at 32*s.* 6*d.*

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